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Included are reports of present nutritional habits and problems in different communities, a discussion of psychological factors influencing consumer decisions about foods, and suggestions for the use of media such as magazines, newspapers, radio, and television to communicate basic nutritional concepts. Several new programs are reported concerned with inservice education of nurses, community education by radio and mail, and community education by counseling aides. New opportunities for communication are discussed as related to maternity and infant care projects, medicare, Federal food programs, projects financed through the Elementary and Secondary Education Act of 1965 and the Vocational Education Act of 1963, and the Head Start Project. The findings of discussion groups are summarized under the headings (1) Problems, (2) Means of improving nutrition practices, and (3) Suggestions for improved coordination of efforts in implementing nutrition education. (EB)

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Proceedings of NUTRITION EDUCATION CONFERENCE

February 20–22, 1967

Washington, D.C.

THEME:

Effective Communication

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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UNITED STATES DEPARTMENT OF AGRICULTURE **Miscellaneous Publication No. 1075**

Proceedings of
NUTRITION EDUCATION CONFERENCE

February 20–22, 1967

Prepared by Nutrition Programs Service Unit

Consumer and Food Economics Research Division

Agricultural Research Service

United States Department of Agriculture

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FOREWORD

The Nutrition Education Conference, for which proceedings are being reported here, was held in Washington, D.C., February 20–22, 1967. It was the fifth in a series of national nutrition conferences. The first one was in 1941 to formulate a national program of action. At the second one, we reviewed our progress and planned for strengthening current programs. The last three have emphasized some aspect of improving the effectiveness of nutrition education and, through this, the nutritional status of the Nation.

Nutrition education is a continuing process. To make progress requires knowledge, skill, and devotion. To maintain progress requires watchfulness, encouragement, and reinforcement. "Effective Communication," the theme of this conference, has never been more important in making and maintaining progress than it is today in our world of mass media.

We are indebted to many, many people for their contributions to this 1967 Conference—through individual efforts, cooperative committee work, and administrative support. We trust that the satisfaction of having been a part of a national effort to increase the impact of nutrition education will be real and rewarding to them.

Many participants have told us how much the conference will help them in reviewing their program activities, providing a focus for future activities, and increasing their understanding of the principles and potential of effective communication. We hope that each person who has had direct or indirect contact with the conference will experience similar benefits.

RUTH M. LEVERTON
Assistant Deputy Administrator
Nutrition, Consumer and Industrial Use Research
Agricultural Research Service

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The opinions expressed by the participants at this conference are their own and do not necessarily represent the views of the U.S. Department of Agriculture.

PROCEEDINGS OF NUTRITION EDUCATION CONFERENCE

INTRODUCTION

The Nutrition Education Conference held in Washington, D.C., February 20–22, 1967, was sponsored jointly by the U.S. Department of Agriculture through its Nutrition Programs Service Unit, Agricultural Research Service, and the Interagency Committee on Nutrition Education (ICNE).

Late in 1964 a subcommittee of the ICNE was appointed to determine (1) the need for a conference at this time, and (2) if there was a need, the scope and emphasis of the conference. The committee recommended that a conference be held early in 1967 and suggested that the emphasis be placed on effective communication of nutrition information and coordination of programs. Plans for the conference were then developed by representatives of the sponsoring agencies.

It was agreed that although we have an impressive body of established knowledge about nutrition, too many people do not use it. The stated purpose of the conference was as follows:

To consider how to make sound nutrition information acceptable enough that people will use it. Specifically, to look at the complex job of bringing about changes in eating habits—the factors involved; how they are interrelated; the behavioral changes it would be desirable to make.

Participants were chosen from groups in all sections of the country—voluntary and private organizations as well as Government agencies—that directly or indirectly are in a position to influence the eating habits of people. Accordingly, invitations were sent to State and city nutrition committees, selected representatives of Extension Service, public health nutritionists, college teachers of foods and nutrition and education, elementary and secondary school teachers, health educators, food trade associations, professional and service organizations, United Nations and Government agencies, and some research-related groups. Nearly 300 persons attended the conference.

The program was planned to provide background information on the general health of our people, the role of the Food and Nutrition Board (National Research Council—National Academy of Sciences) in formulating the scientific basis for nutrition practices, social and cultural determinants of food habits, psychological determinants of food habits, and some current problems and practices in the area of nutrition. The program also included panels on the use of communication media to influence change and on current efforts in communication.

Everyone attending the conference was invited to participate in small heterogeneous discussion groups. These group meetings gave all participants an opportunity to contribute to the identification of problems, and to suggest effective means of (1) improving communication of nutrition information and (2) coordinating nutrition programs. At the closing meeting of the conference, the speaker described, "How Far Have We Come In Nutrition Education?"

Evaluation of the conference to measure participant satisfaction as well as effectiveness of meetings was provided for during the conference, and plans were made for followup evaluation later in the year.

The speakers at the conference were from a variety of disciplines concerned directly or indirectly with the nutritional health of people. The papers that made up the proceedings of this conference are given in whole or in part on the pages that follow. The papers present the speaker's views and not necessarily those of the sponsoring agencies.

WELCOME

GEORGE L. MEHREN, *Ph. D., Assistant Secretary, U.S. Department of Agriculture, Washington, D.C.*

It is a privilege to welcome this distinguished group of individuals to the National Nutrition Education Conference to consider how we can improve the communication of nutrition information.

I understand that you come from all over the country—from every State in the U.S.—as well as from the Virgin Islands, Puerto Rico, and Canada. Among you are scientists, educators, and representatives of public and private groups concerned with the nutritional health of our people.

With such a wealth of dedicated talent, I am confident that you will achieve your goal of making sound nutrition more widely acceptable so people will use it in their everyday living.

This conference follows in the tradition of four previous illustrious meetings:

The first and now classic National Nutrition Conference was called by President Franklin D. Roosevelt in 1941 to consider the nutritional status of a Nation at war. The second conference in 1952 convened to review progress in nutrition and determine ways of strengthening existing programs. The last two conferences—in 1957 and 1962—were largely concerned with improving nutrition education, particularly for children.

We knew in 1941 that no single group alone could do the job involved in helping all our people make the best use of our abundant food supply. The fact that this conference represents so many organizations indicates that this is still a multidimensional job.

We know much more about the science of nutrition now than we did in 1941, of course. But a great gap *still* exists between knowledge and practice. There are many more Americans in 1967 than there were in 1941. Each generation must be taught anew the proper habits of nutrition as a guide for good health.

In a country that has the best, most abundant, most varied, and cheapest supply of food in all the world, you would think that everyone would be well or adequately nourished.

But the really remarkable fact to me—and this clearly shows the difficulty of the challenge you face—is that only about half the households of the United States have adequate diets. By this I mean diets that meet the standards set for adequate nutrition by the National Research Council.

Poverty, of course, is the great hazard to national nutritional health. This is not difficult to understand. Among our low-income population, an estimated 70 to 75 percent have diets that are deficient in one or more respects.

But not all the malnutrition in our country is due to poverty. Poor food selection also contributes to malnutrition. Poor food choices are made because of ignorance, misinformation, and plain lack of appreciation of the relationship of good nutrition to health and well-being. And to further complicate your job, the people who select poor diets are scattered in all groups of the population. They are found at all ages and in all geographic areas. They come from varying cultural, ethnic, and economic levels.

Those who need help are obviously not easy to identify or reach. No one approach will suffice.

We in the U.S. Department of Agriculture have a commitment that is far broader than the job of promoting the production and distribution of a large and nutritionally adequate supply of food. Our interest must also include the use of this food to maintain an adequate level of nutrition among all segments of the Nation's population.

We have a special commitment to see to it that this food is within the economic reach of vulnerable groups. For low-income families, we have two programs:

The Food Stamp Program makes it possible for low-income families to stretch their food buying power with the help of Federal funds. This program is growing rapidly—by the end of this fiscal year it will be available to 2 million needy people in some 870 counties in 42 States and the District of Columbia. Associated with the Food Stamp Program is a nutrition education effort for participating families. This education campaign calls for a community-wide effort involving Federal, State, and local agencies to use all available know-how and communications media to get across the basic nutrition story in a practical and effective manner.

The Commodity Donation Program—the direct distribution of foods acquired under price support and surplus removal programs—is reaching 3.6 million people in more than 1,600 counties and cities. We are doing what we can here, too, to teach participating families how to build a nutritious diet around the donated foods. A promising approach was developed in cooperation with OEO in Project HELP in Mississippi using the homemaker's aide technique.

The National School Lunch Program has had 20 years of experience with improving the diets of our children. Some 19 million children are participating this year in a program that daily offers a demonstration in good nutrition as well as a good meal. We need to go much further with this one. There are nine million children who have no access at all to a food service at school and participation in program schools is not as high as we would like to see it. The schools with no food service are primarily the urban neighborhood elementary schools and isolated rural schools. Both need more help than we were in a position to provide for many years.

Now, we have the Child Nutrition Act of 1966 under which we can provide assistance to needy schools in the purchase of equipment to initiate or expand food service; we can offer the States assistance in providing a breakfast to children in low-income area schools and in those where children travel long distances. By mid-February, breakfast programs in 26 States and Guam got under way with more than 20,000 children participating. These are good breakfasts that meet a tested nutritional pattern and make a positive contribution to a child's health.

We can now also assist schools in providing lunches to preschool children enrolled in school-sponsored programs.

The President has also announced that he will propose legislation to still further broaden our authority to reach needy children in group situations other than school.

The Department's continuing research on human nutrition provides the basic information used by nutrition education specialists.

From this research have come such useful reference materials as tables of food composition, food

budgets at different cost levels, food selection guides, information on the food supply and food consumption in the United States, and other consumer materials.

Research—particularly basic research—is certainly the key to our understanding of human nutrition and its relationship to human health and lifespan. We have come a very long way since Congress initiated the first federally supported research in human nutrition in 1894 . . . and the first food composition bulletin was published in 1896. The payoffs in beneficial results from relatively small original investments in research have been tremendous, and almost impossible to calculate in terms of improved health and longer life.

For example, persistent and devoted research in nutrition by Dr. Conrad Elvehjem of the Wisconsin Agricultural Experiment Station produced niacin, which was used experimentally on six patients incurably ill of pellagra and given only a few days to live. The patients were restored to health and niacin became the cure for pellagra, a once baffling and widespread disease of man. Soon afterwards, scientists worked out the chemistry of carotene and vitamin A, showed the importance of iodine in metabolism, and discovered vitamin D. Then, scientists found that vitamin D could be given to animals by direct irradiation of ultraviolet light, thereby providing an immediate method for eliminating rickets in animals and in humans.

Payoffs of this kind can be found throughout the field of human nutrition research.

Magnificent as these achievements have been, though, the problems we face now are increasingly difficult and demand greater effort in providing solutions.

For example, we have biochemical measurements to determine an individual's nutritional status. But we lack precise knowledge of the relationship between varying levels of nutritional health and overall physical and mental performance.

We do not know the range in amounts of nutrients that a normal individual can consume and still maintain good health and vitality. We need more exact knowledge of the kinds, amounts, and combinations of foods that will support the highest level of health.

We are still largely unfamiliar with the food consumption habits of specialized population groups—such as the very young or old or the sick.

And, of special concern to you, we simply do not know with any degree of precision why people choose the foods they do, and how we can change poor habits of selection.

The answers to these questions will eventually come. And when they do, the payoffs may be as great as any we have realized in the past.

Other Federal agencies as well as private organizations contribute significantly to nutrition education.

Recent legislation has permitted the initiation of new Government programs and the expansion of others—such as Project Head Start, and Medicare, and the programs of the Administration on Aging.

Yet, even with these excellent Federal programs, the fact remains that the day-to-day educational task must be done by people like you. It is you who must develop, adapt, and conduct the programs at the State and local levels, or prepare individuals to work effectively in nutrition education.

Today, a great part of the challenge in nutrition education is to upgrade poor choices so that everyone will have an adequate diet. "Effective Communication" can achieve this goal.

On behalf of the sponsoring agencies, may I bid you welcome to Washington and extend my best wishes for effective communication here and in the years ahead.

HEALTH TODAY IN THE U.S.A

EUGENE H. GUTHRIE, M.D., *Associate Surgeon General, U.S. Public Health Service, Department of Health, Education, and Welfare, Bethesda, Md.*

Some months ago one of the national television networks carried a program entitled, "The National Health Test." Sixteen of the 83 questions were related to diet, and prior to the broadcast the questions were tested on a cross section sample of the population.

Since we are concerned here with communicating nutrition information to the public, you will be happy to know that on 15 of the 16 diet questions more than half the sample group gave the correct answers. According to the survey, more than half our citizens know, for example, that liver has more iron than steak. Furthermore, the majority knows how to recognize a balanced meal.

Well, we ask, why, then, all the concern about communication. Indeed, why all the concern about nutrition? The public seems to have memorized the catchwords and many, if not most, in our population, must surely be enjoying good nutrition.

But are they? Just how much do we know about the nutritional status of our population? In fact, just what do we know about the state of the Nation's health in general?

Let's look at a few facts. We are a Nation of 195 million people, soon to pass 200 million, and likely to reach 210 million by 1970. Figures show that, on the average, our population is well cared for medically, with each person averaging a little more

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than four visits to a physician per year plus one to two visits to a dentist. That sounds pretty good, but I never cite something like this without being reminded of the statistician who was drowned in a river only two inches deep "*on the average.*" "Average" figures can hide a lot of facts.

The truth is that too many people average 0.0 visits per year to a physician or dentist. It is also true that the death rate in this country, after a long decline, has not changed significantly in 10 years. Today it stands at about 9.4 per 1,000 population.

What are some of the causes? Well, about 7 out of 10 deaths in the U.S. are blamed on heart disease, cancer, or stroke. Like the overall death rate, the rates for each of these causes have remained relatively unchanged for a decade. But within these groupings, there have been some interesting fluctuations. The death rate for lung cancer, for example, has increased by about 40 percent in the past 10 years. I might add that this upward curve shows a striking similarity to the curve for cigarette consumption.

The other major causes of death are accidents, influenza and pneumonia, certain diseases of early infancy, arteriosclerosis, diabetes, other circulatory diseases, and other bronchopulmonic diseases, in that order.

Together, these top 10 account for more than 85 percent of all deaths in this country.

The communicable diseases, on the other hand, account for scant fractions of the national death toll. Polio, which claimed more than 1,000 lives as late as 1955, was reported as the cause of less than 20 deaths in 1965. Tuberculosis deaths dropped from nearly 15,000 in 1955 to less than 8,000 in 1965—almost half. Vaccines and programs to increase their availability have brought marked reductions in whooping cough and are fast catching up with measles.

We estimate that more than 400 million cases of acute illness or injury occurred in our population during fiscal year 1965. More than half of these were respiratory conditions, including the common cold, with another 15 percent involving nonrespiratory infectious diseases, 15 percent involving accidents, and about 5 percent involving digestive illnesses. More than 87 million persons—nearly half the population—were stricken by one or more of these conditions.

Illnesses or injuries resulted in more than a week of restricted activity per person in 1965. Heart disease, cancer, and stroke, in addition to causing untold physical anguish, cost the Nation more than $4.3 billion for medical services and medical supplies. They cost close to $40 billion in losses in productivity.

As might be expected, there is a definite link between poor health and low income. People in families with annual incomes below $2,000 have twice as many bed-disability days, more than 60 percent more work-loss days, and one and a half times as many hospital days as people in families with incomes of $10,000 or more. Not only is their income generally insufficient to cover the cost of illness, but few low-income families carry medical insurance. Among families in the under $2,000 income group, only about 1 out of 3 persons has hospital insurance coverage, compared with 7 out of 8 people in families with income of $7,000 or more.

We still don't know whether people are sick because they are poor or poor because they are sick. I won't try to resolve that question at this time. The main point is that the poor, in general, although in greater need for health care, receive fewer health services than people with higher incomes. The same applies to the elderly. Even with Medicare they require twice as much medical care as younger people and have only half as much income. The uneducated or poorly educated make up still another group receiving less health care than they need and being least able to afford it.

By any measure we use—death rates, disability, personal dependency, or whatever—the chronic diseases stand out as the biggest obstacle to public health in this Nation today. They have supplanted the infectious diseases as "Public Health Enemy No. 1."

We have few of the weapons we need to battle this enemy successfully. We don't know what causes many of the chronic diseases, much less how to prevent or cure them. Lack of professional knowledge combines with public apathy and lack of information, poverty, and increasing environmental factors all compound the problem of getting medical care to those who need it when and where they need it.

This is the dark side of the public health picture today. But there is a bright side, and it is this side that we can and must emphasize.

The Administration and the Congress in recent years have given us unprecedented new health legislation. In fact, within the last 3 years Congress has enacted 24 major health programs, more than were passed in all the previous 168 years that the Public Health Service has been in existence.

Just this past January, we reorganized the Public Health Service from top to bottom, streamlining its administrative structure in order to meet the mounting demands of public expectations and to exploit the new opportunities given us by new legislation.

I believe we are off and running. The Regional Medical Programs provided by the heart, cancer, and stroke legislation will enable us to narrow measurably the gap between research findings and practical application. The community health services legislation is enabling us to expand vaccination assistance programs, to continue our program of health services for the Nation's one million mi-

grant workers, and to get more and better health services to the chronically ill and the aged. Medicare is providing more than 18 million Americans over the age of 65 with help in paying hospital bills, and more than 17 million are taking part in the voluntary part of Medicare that helps pay doctor bills.

We are helping to establish special coronary units to demonstrate exciting new lifesaving techniques for heart-attack victims. We are supporting new systems for automating whole batteries of health tests to seek out hidden disease in large number of people in a minimum of time and at minimum cost. Prevention is a big word with us, especially in dealing with the chronic diseases. Through prevention we can minimize the demand for limited medical services and facilities, we can eliminate the threat of lost income and lessened productivity. By maximum application of known preventive methods, we estimate, for example, that we could save 4,000 women from fatal uterine cervical cancer, reduce the number of syphilis cases from 240,000 cases to 15,000, and extend the productive lives of 13 million arthritics by from 1 to 5 years.

The science of nutrition is a big part of prevention, and we are looking more and more to this field. Atherosclerosis, diabetes, and arthritis are but a few of the major diseases in which nutrition is a factor in prevention or treatment or both. Mental retardation has definite nutritional aspects involving inborn errors of metabolism. The maternity and child health programs as well as programs such as Operation Head Start and the home-delivered meals programs for the aged are also drawing on the nutrition field for help and guidance. There is overall a vast need for more nutrition information in most of our disease-prevention activities.

But I don't really need to dwell on the importance of nutrition in today's programs for public health. You know the story better than I. You know why all of us who are concerned about the state of the public health must also be concerned about nutrition. It's a part of the puzzle and the picture cannot be complete without this part.

The remaining question is why the concern about communication? Well, again, we all know *why*. The real question is how! First, there is a need for communication within the field—among the researchers, the schools, and the practitioners. Information gaps exist on such basic questions as how dietary requirements vary among age groups and occupations. Other gaps exist in our knowledge of what the nutritional picture of our population really is. Sometimes I think that we know more about the nutritional status of many of the underdeveloped nations than we do about our own. These gaps are going to have to close, first of all to get those in the field talking the same language and secondly, to get those in the field able to communicate with those outside the field.

Finally, the need is great for more effective communication with the public to be accomplished both by nutritionists or nutrition educators and by physicians and those working in disease-prevention programs. Although the public may have been able to answer the basic questions on the National Health Test which I mentioned earlier, how can the public be expected to have a genuine understanding of good nutritional practices when confusion exists even within the medical profession?

We cannot, however, wait indefinitely for more data and more research; and I am happy to tell you that the Public Health Service, in strengthening its disease-prevention activities, does not intend to neglect the nutritional aspects. Within the PHS National Center for Chronic Disease Control, we intend to expand our nutrition activities to insure their full inclusion in our programs for heart-disease control, kidney-disease control, and diabetes and arthritis control. We hope to establish a general nutrition program at this center to concentrate on nutrition and its broad health implications. It is our hope to be a positive and active force for improving communications within the nutrition field, between the field and other health professions, and between the professionals and the public.

Our National Center for Urban and Industrial Health with major food protection and sanitation responsibilities will be strengthened in its efforts to evaluate the nutritional effects of various food processing and packaging methods. Certain categorical studies and other basic nutrition research will continue to be conducted at the National Institutes of Health.

Communication of the new knowledge that has been and is being developed by the PHS and other agencies of Government as well as by private institutions and industry—all of this poses a rather large order of cooperation and coordination. But it is well worth your earnest attention, and the end result will be worth the effort.

For all of us together are seeking not only to reduce the incidence of diseases but to prevent it. We are seeking not only to protect health but to enhance it. This is an age when we can communicate with any place on earth, when we can talk with men in space, and when we actually try to contact life in other solar systems. It does not seem too great a task to coordinate the activities of a single profession and to communicate professional knowledge to those who can apply it toward the health goals we have set ourselves as a Nation.

I do not belittle the task. I know it is not easy. I do contend it can and must be managed. Your collective competency, your interest, and your presence here today support me in that contention.

I commend your efforts and your dedication, and I wish you success in your deliberations.

COMMUNICATIONS—POLICIES AND EXPERIENCE OF THE FOOD AND NUTRITION BOARD

C. GLEN KING, *Ph. D., Vice Chairman, Food and Nutrition Board, National Academy of Sciences, Washington, D.C.*

The Food and Nutrition Board was first organized in 1940, as a committee within the Division of Biology and Agriculture of the National Academy of Sciences–National Research Council and charged with advising the National Government in very broad terms, relative to foods and nutrition. This action was a part of the intense effort to strengthen all military and civilian resources in preparation for war. M. L. Wilson, in the Department of Agriculture, as key administrative officer was vigorously assisted by Dr. Thomas Parran, Surgeon General of the Public Health Service, Dr. Russell Wilder, Chief of Medicine at the Mayo Clinic, Dr. Frank Boudreau of the Milbank Memorial Fund, Dr. Robert Griggs, in the Academy of Sciences, and Dr. Paul Howe along with each of the other top food and nutrition officers in the military services.

There was great uncertainty at that time regarding the adequacy of our food supply as consumed by either the civilian population or the rapidly growing military forces. Accordingly, there was intense pressure on the Board to act quickly and reliably. Factual information was assembled and interpreted in mimeographed reports and where further research was needed, we so recommended. These two functions still dominate the Board's program and communications. Although the Board membership was small—only 21 at the beginning—its meetings were regularly attended by the administrative personnel just referred to, plus representatives of Allied Governments, industry, the Red Cross, the American Institute of Nutrition, the Institute of Food Technologists, and many other national and international organizations.

Meetings and working commitments of the Board had priority over practically any other obligations. For example, one of my first experiences was an assignment to write and deliver in person, the final draft of a letter to be signed by General Parran and forwarded for action by President Roosevelt in issuing War Order Number One which established the Bread and Cereal Enrichment Program. This early experience in the ritual of high positions enabled me to appreciate the candor and sense of humor of the Army General who recently testified before a congressional committee in defense of lower echelon being permitted to draft important documents, saying, "There's nothing wrong in this practice, they do it all the time!"

This brief review of the Board's background is given for two reasons—first, to orient the position of the Board in relation to Government agencies and the general public, and second, to emphasize the fact that communications are generally most effective when on a responsible person-to-person basis. Nearly all actions of the Board are preceded by a highly qualified committee's report that has been thrashed out in an open meeting of Board members and liaison representatives from a great variety of organizations. The Board then meets in executive session to make final decisions on the text and to recommend the channels of communication for action. Being the only member of the initial group who is still a member of the Board, I am glad to put in the record my opinion that the actions of the Board have been as free from influence by partisan or selfish interests as is humanly possible.

The target of a communication is an important aspect of its content and effectiveness because it may range anywhere from the White House or a Federal cabinet office in the form of a letter or memorandum signed by the President of the Academy, to a leaflet and press release addressed to the general public. However, a large proportion of the Board's communication activity appears in the form of very carefully prepared bulletins and booklets intended chiefly for scientists. All major items must be cleared with the Division of Biology and Agriculture office of the NAS–NRC and finally by the President of the Academy. Meanwhile, the open discussions with highly qualified guests present at Board meetings have served a very useful purpose in permitting a widely distributed number of scientists to understand the issues involved in Board actions. This freedom to air different opinions and have an agreement reached among independent scientists has been an important factor in holding public and official confidence in the Board's actions. I recall the cryptic comment by Professor McCollum at the close of a Board session when he said dryly, "I would like to see this Board try to rewrite the Ten Commandments!"

Probably no one publication has had so much influence on national and international affairs as the booklet on Recommended Dietary Allowances. The Board was accustomed to working fast during the war years but we were utterly surprised when Lydia Roberts was authorized at an afternoon meeting to prepare a table of that nature, and reported to the Board next morning with a draft copy. On second thought, we decided that this was an illustration of homework well done by a committee of one in advance of the meeting. You can imagine the zest with which subcommittees then attacked all of the data presented.

The tradition of being authorized to serve as the key scientific advisory body to Government agencies in wartime has led naturally to emphasiz-

ing a similar role in peacetime. However, by the end of World War II it was clear that the Board could and should continue its service more broadly in the public interest. It may authorize committee activities in response to evident public need without narrowly defined specific requests. In most instances, however, scientists working in other institutions have guided inquiries toward the Board, in response to a recognized need for action. Again, this is often the result of a person-to-person interest on behalf of someone who has served in a liaison role and who is familiar with the Board's responsibility. Without this kind of personal acquaintance it is sometimes difficult to get an interested party to ask the right kind of question.

When the costs for specific tasks are appreciable, the Board can act jointly with the Academy office in arranging for appropriate support without jeopardizing the Board's freedom of action. Contracts with the Office of the Quartermaster General, the National Institutes of Health, the Rockefeller Foundation, and for the Food Protection Committee are excellent examples of such arrangements. However, a large part of the Board's activity is carried on with a very small budget for the Executive Office.

A completely different form of communication on behalf of the Board does much to extend its significance, namely, through independent writings and addresses by members of the Board and other scientists who are familiar with its work. This activity has been particularly effective, I believe, in relation to the Recommended Dietary Allowances, the food enrichment program, the role of edible fats in relation to public health, the significance of nutrition in international programs, the value of fluoridation in relation to dental caries and osteoporosis, the potential value and safety of properly prepared fish protein concentrate, and the values to society that result from appropriate use of chemicals in food production and processing. These are only a few examples of the educational work that goes on constantly, to reach scientists and the public alike without cost to the Board. In referring to the Board's work, however, members and liaison representatives are obligated not to speak officially for the Board, but only as interpreters, unless they are specifically designated by the chairman for a specific task.

The official publications of the Board have a wide national and international distribution and in this form they undoubtedly have been of great practical and educational value. Nevertheless, I believe that added values would have been accomplished if more care had been taken to cooperate with science writers in the preparation of appropriate press and radio releases in advance of open publications. These channels of public education are equipped to render a reliable service that reaches the public promptly and accurately. In addition, they reach a great many scientists who have practically no contact with the technical literature in nutrition. I recognize that there are certain risks of misinterpretation in working with the press, but with normal care the risks are extremely slight in comparison with the potential value of accomplishing an honestly educated public in relation to food and nutrition practices.

In closing, I would like to compliment the Department of Agriculture and the Interagency Committee on their efforts to reach the public with interesting and reliable material. There is still very much to be done on a national scale, and a vastly greater task to be accomplished internationally. The currently operating programs are woefully inadequate, particularly in the international scene. Several million dollars annually should be put into support of honest, high quality press, radio, and television programs. Such a program that included training of personnel for educational work in developing countries would be one of the best investments that our Government or private foundations could make.

As a companion program, I am sure you will be interested to know that the International Union of Nutritional Sciences is now getting organized to give assistance in educational work that will include schools of medicine, public health, dentistry, agriculture, veterinary science, food science, home economics, and dietetics.

PROBLEMS AND PRACTICES NUTRITION WORKERS FIND

M. CATHERINE WELSH, *Field Representative, Home Economics, U.S. Department of Health, Education, and Welfare, San Francisco, Calif.*

Problems and practices nutrition workers face as they work with programs in the schools! What an opportunity to share concerns about our shortcomings in teaching nutrition in the public schools knowing that someone else will develop the cure. It is so much easier to be critical than constructive. But perhaps we need to review the technique for problem solving which begins with an identification of the problem—a recognition that things could be improved. Let's think of these problems, then, as the first step in seeking a solution, not as a condemnation of the status quo.

In the work that I have done in the public schools one problem seems to recur more often and cause greater concern than any other. It is the lack of a graded curriculum in nutrition education that spans the public school years.

To support this thesis, I'd like to refer to a nutrition education survey which was done in the Los Angeles County Schools a few years ago.

It was believed that nutrition was sometimes presented in a superficial manner and that it would strengthen programs if successful methods and effective materials being used could be shared with other districts in the county.

In response to an open invitation, 29 of the 90 districts participated. They represented a cross section in terms of size, economic status, minority patterns, and urban-rural communities. Three thousand teachers in grades kindergarten through six responded in terms of their classroom experiences during the previous year. The survey was based on the past year in order to eliminate creative thinking and to get a realistic picture of the actual situation.

In part and in capsule form, the survey indicated that:

1. 98 percent of the teachers did make provision in their instructional programs for teaching nutrition.
2. It was taught in varying ways.
   8 percent taught nutrition as a separate unit.
   92 percent integrated with other subject areas.
   1/3 with health education.
   1/5 with science.
   1/5 with social studies.
   1/10 each with art, language arts, and physical education.

This substantiates the fact that nutrition is being taught. The teachers are including this material, but what, when, where, and how?

In response to a question on areas of emphasis that the teachers found were particularly effective in teaching nutrition at their grade level, the survey revealed that out of a list of 12 possible items:

1. 20 percent of the teachers emphasized basic food groups.
2. 20 percent emphasized the breakfast unit.
3. 20 percent emphasized the signs of good nutrition.
4. 12 percent stressed the importance of eating a variety of foods.

These percentages were typically high through each of the grades, kindergarten through six, which raised some questions in my mind. Variety is one concept we often emphasize in the primary grades and especially at the kindergarten level. However, according to this survey the same percentage of teachers were stressing variety at the 6th grade as kindergarten. Does this mean that 88 percent of the teachers were stressing specific foods—the virtues of spinach or the so-called advantages of some other food? Perhaps this is overgeneralizing. I hope so! Another question concerned whether the material was being taught in a repetitive manner or as a sequential development of experiences? For instance, in teaching the importance of eating a variety of foods was the same information repeated year after year or were the teachers building on previous learnings; that is, at the kindergarten level did the teacher stress the concept of variety to enlarge the students familiarity with many foods, while at the 6th-grade level the students might be learning to identify equivalent sources and amounts.

Some "areas of emphasis" were little used. Two percent or less of the teachers felt the following areas were effective in teaching nutrition:

1. Consumer education or getting the most nutrition for your money from the food available to be purchased. This was in spite of the fact that Los Angeles County is headquarters for four large health-food concerns.
2. Community resources—the protective and regulatory agencies. This was in spite of the fact that California requires a unit at the primary level. Evidently it is unrelated to nutrition education.
3. Methods of processing—this intrigued me because of the keen interest of elementary grade students in the space-feeding program, eating algae and all the new developments along this line.
4. Foods in other lands—with the California social studies framework including a study of many of the countries around the world and with the increase in cosmopolitan tastes and international flavors—why was this area of emphasis so little used?

Are these avenues really being ignored, or does the teacher fail to recognize the relationship of the material she is teaching to nutrition education?

This is probably sufficient to illustrate my concern. Nutrition is being taught in the public schools today. There are some excellent programs that have been in operation for a period of years; however, there are probably many more programs that are less than excellent.

We are well aware that much is required of our public school teachers. In many instances they are operating under a mandated curriculum that nearly exceeds the hours in the school day. Most teachers have had little or no formal training in nutrition with the exception of some who are in specialized fields, mostly at the secondary level such as homemaking, health education, and science. Then, in addition to the lack of time and lack of knowledge in the subject, we subject them to another hurdle—the lack of a graded curriculum.

This doesn't have to be an impossible task! Such materials need to give direction for the development of progressive and sequential experiences with latitude for local decisions on implementation. It is always a challenge to develop curriculum, but it is also a stimulating and rewarding experience.

There is a practice in the schools that tends to invalidate the work that is done in the classroom. The bell rings, classes are excused for the mid-morning nutrition break or lunch, and what kind of foods do we find available for students to purchase? Carbonated drinks, confections, and similar snack items that may lead to the development of unsound food habits.

The American Medical Association, American Dental Association, National Congress of Parents and Teachers, American School Food Service Association, American School Business Officials, and other groups interested in the education and health of school children have taken a stand opposing the sale and distribution of soft drinks, confections, and similar snack items in schools during the normal school day.

We know some of the reasons these foods are sold. They are relatively inexpensive, involve little or no labor, and are so-called status foods. However, I am familiar with districts where the fresh fruit vending machines had to be serviced three times a day in spite of a very limited variety of fruits available. Maybe other foods could make the "best seller" list if given a chance.

Sales of soft drinks, confections, and similar snack items in schools produce a public impression that schools endorse the frequent consumption of these items and, consequently, the development of unsound food habits.

Some districts and States are making efforts to correct this situation. Last year the California State Board of Education adopted a policy that "beginning with the 1966–67 school year, National School Lunch Program Agreements shall be amended to provide that all school food service during the regular school day shall be operated by the district school food service department."

There is concern about the inconsistency between classroom experience and campus practice. Several national organizations are on record in support of limiting food offerings to those that most effectively meet the nutritional needs of pupils and promote the development of desirable food habits.

There is no "instant" solution to either the problem or the practice I've identified. Some localities have made great strides in developing sound curriculum and improving food sales on campus. However, for most of us they remain a part of the taks that lies ahead.

SYMPTOMS AND PROBLEMS OF POOR NUTRITIONAL HABITS OF PEOPLE

ELOISE COFER, *Ph. D., Assistant Director in charge of Home Economics Programs, North Carolina State University, Raleigh, N.C.*

Traditionally, foods and nutrition education has been of major importance in the extension home economics program. The family living programs, begun prior to the Smith-Lever Act of 1914, were designed to teach rural homemakers to improve the health of their families by planning, producing, and preserving for a year-round nutritionally adequate food supply.

At present, about 5,000 extension home economists assisted by 700 program assistants are reaching more than 10 million families of whom 35 percent are low income. Thus each extension home economist is reaching about 2,000 families.

In nutrition education, during the past year, 148,000 young mothers, of whom about 100,000 had incomes under $3,000 were reached through special nutrition programs. Over 900,000 families participating in the Food Stamp or Food Surplus Commodity Program in 1,887 counties received foods and nutrition educational information and food preparation demonstrations from extension personnel or leaders trained by them.

This preface gives some picture of the scope of the Cooperative Extension Program in nutrition education. But while our program is extensive and in many cases effective, as attested by our clientele, we know that poor food habits have not been eliminated.

Replies from a small sample of my counterparts in other States indicate certain symptoms of poor food habits that continue to challenge us. Overweight and obesity in youth and adults are the symptoms that lead the list; other evidences of poor nutrition frequently were mentioned—poor nutrition of teenagers, inadequate consumption of vitamins A and C and calcium, and food faddism.

Overweight and obesity are observed in all classes, among all economic levels and ethnic groups; among the affluent, who consume too much food and drink at meal and snack times and who are sedentary because of the jobs they hold, and the ease and convenience of their methods of transportation; among the poor, who eat an inadequate diet high in carbohydrate and fat and who are sedentary because they are unemployed or have no place to go or reason for being active. Young mothers in some rural areas, say my colleagues, still equate a fat baby as a healthy one. This attitude of the mother shapes food habits that may lead to overnutrition in childhood and adulthood.

For many farm families the meat-and-potato diet still is the norm. Rural families, too, are more sedentary than in the past for here, too, machines have replaced human energy. Rural families who have abandoned their home gardens often have not accepted the necessity for buying fruits and vegetables; therefore, commercially produced ones are not available because of lack of demand. Diets of these families then become inadequate in vitamins A and C. Low calcium intakes are reported in high beef-producing States where milk of range cattle is seldom used for family diets. In the South, the per capita consumption of fluid milk has been relatively low for many years. This condition re-

flects the food habits of families and, as with other dietary deficiencies, may have developed because of the low per capita income.

In past food consumption surveys, the calcium level of the diets of Southern families has not been as inadequate as the low milk consumption would lead one to expect due to the use of large quantities for self-rising flour. It will be interesting to note whether the 1965 survey shows that this condition still exists.

The poor nutritional habits of teenagers have been discussed at length in many of our conferences. Some of the State leaders speculated on whether our 4–H projects in extension home economics always are planned for teaching good nutritional habits and for relating nutrition to the current interests of the teenager. They cited the great emphasis given some baking and dessert projects with lesser emphasis on food preparation of vegetables, milk foods, and other food groups. During the past few years, however, many States with help from Dr. Evelyn Spindler, FES nutrition specialist, have made great progress in directing their 4–H programs to the building of good health habits for life during the teen years and later.

Food faddism is another symptom which may not always result from inadequate nutrition but as one State leader phrased it "is economic folly, affecting most often the elderly who can least afford to overextend their food budget and to accept the false security that sometimes delays their seeking competent medical advice."

Important food practices leading to these evidences of poor nutrition are the unplanned or poorly planned meals observed in all strata of society. Still the multiplicity of choices in the market, be it rural or urban, makes impluse buying difficult to control. Even the homemaker with the preplanned shopping list must use strong will power not to substitute items in exciting new packages for the ones she has listed to buy.

Once the groceries are in the kitchen, my counterparts and I believe that poor methods of food preparation continue to rob the family of essential nutrients.

While symptoms of poor nutrition change, the problems of poor nutrition are the same as those used by the late Franklin Roosevelt in the thirties to categorize ill-fed Americans—the problem of people who (1) do not have enough, (2) do not know enough, or (3) do not care enough.

For the poor today all three problems—poverty, lack of knowledge, and poor motivation—combine to produce the symptoms of poor nutrition. Constantly, we observe practices such as the high consumption of soft drinks instead of milk, failure to use donated foods, raise a garden, or poor sanitary habits, as adding to the problem. However, such practices must be weighed against the family's resources, their value systems and peer groups and family pressures before we make judgment or plan programs to alleviate problems. In many communities donated foods and food stamps are not available. Where donated foods are available, programs demonstrating their use have been successful, but unless there is sufficient money to supplement these foods with fruits and vegetables, diets will be nutritionally inadequate and the high carbohydrate diet will lead to overweight.

Nutrition education in whatever form it is provided must be accompanied by efforts to help the families increase their real income through various educational and job opportunity programs.

Lack of knowledge of the young homemaker about nutrition, food buying, and meal planning is the problem that leads to poor food habits for many middle class, as well as lower class, families. And the greater pity, that they "don't know that they don't know." As mentioned earlier, this is one clientele group for whom extension nutrition education programs are being especially planned. Unfortunately, the State leaders report many rural children, children of young, nutritionally uninformed homemakers, don't have the opportunity in the elementary grades for even the educational opportunities the school lunch can provide. For many of these children still are attending one-room schools where the program is not available.

Many extension nutritionists and State leaders feel that individuals that do not care—the unmotivated—pose the greatest problem for nutrition education.

This problem warrants especial attention both for research and educational programs. Many adults and youth lack a conviction that there is a relation of diet to health. Research shows that adequate, even superior, knowledge about nutrition does not bring about good food habits automatically. Some of my colleagues believe that much of the confusion results from the conflicting nutritional advice by the various contacts who have status with the individual or family—the physician, the dentist, the public health worker, the social worker, the public school teacher, radio and television advertisers and performers—yes, and even extension home economists.

Even when adequate knowledge is present, we observe daily that our clientele, as do we all, sift out what they want to use and ignore the rest. Humanlike they resist the change that the forming of food habits entails or are overcome by a value system that prevents them from being properly nourished. We know from available research how great the effort for changing food habits must be for small gains.

When the clientele of the Cooperative Extension Service were almost exclusively rural farm resi-

dents, it was a relatively simple task to provide them with the available nutrition information, to help them make a family food plan based on home production, and to evaluate the program by the acreages of produce planted, the kinds and numbers of jars of food canned and stored and of meat cured. But rural people, too, are changing their value systems and status symbols. They buy vegetables and fruits and biscuits at the supermarket, and the milkman leaves cartons of milk on the dairy farmer's doorstep. The extension clientele has expanded to include other rural residents than farmers—the suburbanite, the urbanite.

Often we feel inadequate in trying to relate old research to new situations and new motivational research is scanty and piecemeal. The physical scientists have provided more knowledge about what and how much we need to eat, one State leader pointed out, than the behavioral scientists have been able to help us use. We feel that we need expanded research in the areas of motivation as applied to nutrition education if we are to have people accept and use the information to wipe out the symptoms of poor nutrition, both apparent and hidden. Perhaps we need to be more aggressive in seeking the help of other disciplines in the effort.

COMMUNITY HEALTH

ALICE M. SUNDBERG, *Director, Bureau of Public Health Nursing, Baltimore City Health Department, Baltimore, Md.*

As a community health representative, and especially speaking for public health nursing, the nurse has the opportunity and the responsibility to help teach nutrition to families and individuals in the home, clinics, school, and industry.

Health and nutrition needs arise from—

1. Health problems.
2. Environment situations.
3. Social-cultural patterns.
4. Patterns of behavior.

All are interwoven and interdependent.

Public health nurse gives out—

1. General information on nutrition.
2. Food purchasing.
3. Meal planning.
4. Food preparation.
5. Counseling on kitchen management for handicapped.

The *new Federal programs*, such as the Maternity and Infant Care Projects funded by the Children's Bureau, have been a wonderful addition and asset. Instead of one nutritionist, we have one chief, plus four others, assigned to the five districts and available during clinic sessions where they can work with patients on a 1-to-1 basis.

In 1966—8,476 Project 501 clients in 1,519 individual and group sessions talked to the nutritionist.

Nutritionist supplies us with food guides and manual
display
literature

The public health nurse and nutritionist as a team.

Nurse and Nutritionist Work Together

The aim of both nurse and nutritionist is to provide effective nutrition guidance and counseling to families or individuals. Because the nutritional needs of people are so closely related to other health needs, it is difficult to draw a line between the responsibilities of the two professional groups. In some instances they overlap; in others there is a clear delineation of the responsibilities of each; and in some situations it may be necessary for one to substitute for the other. With mutual respect for and with an understanding of the abilities of the other, imaginative and effective health services should result. The best interests of the family or individual cannot be served where each discipline attempts to preserve its autonomy or, on occasion, usurps the role of the other.

In general, it can be stated that the nurse, by virtue of her close and continuous contact with families and individuals, is the appraiser of needs, and the counselor and teacher; and the nutritionist, by virtue of her specialized preparation, is the resource person for appraisal and planning and when circumstances demand her special content in this area, the adviser or counselor. It goes without saying that whoever assumes the role of counselor will not preach.

The nurse-nutritionist relationship is that of consultant-consultee, which involves the giving and taking of help in an interpersonal relationship. Consultation, like most human relationships, is a two-way process; although the nutritionist may usually be considered the consultant and the nurse the consultee, these roles may be reversed. If the nutritionist is to assist the nurse, the nurse in turn must share her observations and experiences with the nutritionist. Inherent also in this relationship is the need for professional and personal satisfaction for both the nurse and nutritionist.

The nutritionist can offer the nurse:

Understanding of racial, religious, and psychologic factors that influence food habits.
Knowledge of food economics.
Principles of diet therapy.
Acquaintance of ways of combating fad foods.

289-615 O—68——3

Experiences with new research methods in nutrition—such as assay methods and dietary histories.

Awareness of functions and areas of service of other agencies with similar concerns.

Optimum nutrition provides one of principal bases for good health.

The inner-city, low-economic neighborhood does not attract the big supermarket with its wide choice of fresh and frozen foods in the better brands. A survey of one ward and tract in Baltimore revealed the small neighborhood independent grocer who had a poor selection of inferior quality food. The family comes to this store because it is (1) close by, (2) they can secure credit and charge until next welfare check comes in, and (3) they tend to buy food meal by meal rather than on a weekly basis. Such limited buying affects the family's meals. One district reports a bus has been converted into a store and cruises through an area where stores are absent. *Donable Foods* will soon be replaced with Food Stamps and we anticipate the public health nurse will have to do a lot of explaining about the program and point out the value of participation. At least the family can select the foods they like. Many families accepted donable foods but didn't like all the items and, in spite of demonstrations, found reasons not to use them.

Cooperative food stores under Community Action Programs have proved to be acceptable in one area of Baltimore. Families contribute a specified amount, then certain items are bought in case lots at wholesale and reduced cost to the client. A recent news item reported three stores would soon be opened in the inner-city.

The need to know likes and dislikes of various ethnic groups—their tastes and attitudes about food; when they eat; the special religious days they celebrate and the foods related to these days.

Observations of home at mealtime provide nurse with information on food buying, food preparation, food preferences, and food habits. Public health nurse may collect data on daily or weekly basis of patients intake of food.

Meals on wheels, while an essential service in any community, has its drawbacks because of the likes and dislikes of people, mainly the elderly and ill who find it difficult to eat a balanced meal and find food isn't the way they cooked it.

Chronically ill and elderly present special needs—mainly the *salt-free diet* and *economic problems* relating to cost of food and stretching the dollar (use donable food and buy day-old bread). Usual pattern is soup, tea, toast, crackers, and eggs. We urge that they eat balanced meals, either three large meals or a number of small meals during the day; to include roughage to avoid constipation; to read labels on the cans for salt content; and to use some prepared foods.

Cost of prepared foods can be a problem.
(1) Home freezer—sold door to door.
(2) Infant foods—cost of prepared so much more than preparing them from family food.

Adolescent—Pregnancy—Anemia, Obesity } Failure to thrive

Nutrition needs as high as they will ever be.
Crisis of puberty and pregnancy (Felix Heald).

1. Food fads.
2. Excessive weight gain and body fat.
3. Hgb and nutrition ↓ related to iron intake. Weight related to ↓ calorie intake.

The 501 Project points out the—

Positive Preventive Nutrition } knowledge related to
- Toxemia
- Thyroid condition
- Kidney problem
- Diabetes
- Hypertension
- Anemia
- Obesity and malnutrition

that the public health nurse needs to know.

PKU and the Nurse and the Family

The nurse assists the family in ways to manage the dietary treatment and management of the child.

This is a good example of the nutritionist and public health nurse as a team. The physician prescribes the treatment—then assistance and information can be given the parent, list of foods, a well-balanced diet, meal plans, and recipes.

She assesses, teaches, and guides individuals or families.

School-Aged Children

Breakfast.
Teenage girls vulnerable to food fads.
Young boy with acne.
Handicapped child who must control weight.
TB patient.
Fluoridated H_2O benefits.

Continuity of Care

Before a patient is discharged from the hospital, the dietitian should have sufficient information about his problem and time to instruct him, referral made to public health nurse for followup with patient and family.

NUTRITION PROBLEMS AND PRACTICES AS SEEN BY A HOME ECONOMIST IN COMMUNITY ACTION PROGRAMS

MARY DODDS SCHLICK, *Home Economics Consultant, National Committee on Household Employment, Washington, D.C.*

Obesity among adult women and the "empty" nutrition of children—from the very young to teenagers—are the two nutrition problems about which I have been most concerned while working with Indian families in Oregon and Washington State and Negro families here in Washington, D.C., and in Northern Virginia.

This school year I am teaching a group of women in Arlington, Va., who want to improve their basic skills of reading and arithmetic through an evening homemaking class. Although they all wanted to learn to sew, I have discovered that the best way to hold their interest is to combine other areas of homemaking with the sewing. We began studying the weekly food pages in the newspapers and planned our grocery shopping lists around the meat specials each week. In this way we moved into the study of food for families.

Just before Christmas I gave a food demonstration which had surprising results. I showed the group the comparative costs of making mincemeat, buying the prepared mincemeat and buying the dry product and reconstituting it. Most of the class members did not like mincemeat pie. So, to give them some other ideas for its use I brought filled mincemeat cookies to class. Several students commented that they didn't make cookies because they are fattening. Then the others began to talk about fattening foods and the conversation quickened. Being overweight was bothering most of them, I discovered. Earlier, sewing had started many of them thinking about their weight when we measured for pattern sizes and helped each other fit dresses in class. But this discussion of foods brought the interest out into the open.

As a result, the class is now in a weight-control unit. As a byproduct, although by no means less important, they are studying the food their families need for good health. The food records they kept at the beginning of the weight-control lessons were revealing. In addition to having little understanding about the kinds of foods they needed each day, many students were not eating regular meals. Because the husbands worked irregular hours, their mealtimes were uncertain. They were piecing along on fruitcake or doughnuts and coffee. Many did not eat breakfast. Often, this was because they had eaten a substantial late evening snack and weren't hungry in the morning. One woman carried her lunch to work and could not think of any way to provide milk, fruit, or vegetables in a bag lunch. Several of the women worked in homes and were dependent on their employers for lunch. Sometimes this meal was well planned, more often it was simply leftovers from the family dinner. In our work with the National Committee on Household Employment, we learned recently that obesity is one major factor that keeps household workers from getting jobs. When a potential employer sees a prospective worker who is overweight, the employer often assumes that the worker is either lazy or not clean or both.

Until we began to study weight control, most of the class really didn't know how to prevent obesity or how to lose the weight they had accumulated. This lack of understanding seems to be common. In the District, a Head Start cook, considerably overweight herself, was feeding the children macaroni and cheese and mashed potatoes in the same meal. On the Warm Springs Reservation in Oregon, many Indian women were very heavy. The standard refreshments for community meetings were huge bakery doughnuts and Kool-Aid.

The Indian women used little milk for drinking or in cooking. They were unfamiliar with nonfat dry milk. The women in my class in Arlington resisted the suggestion that they needed to include milk in their diets. "Too fattening!" they told me. When we conducted a survey of grocery-buying behavior among women in the community action program in the District of Columbia, we found that most of those interviewed did not use instant nonfat dry milk. They said they had a difficult time reconstituting the dry milk which they had received under the abundant foods program. They did not want to bother with it any more.

Although many practices reflect a lack of understanding of the relationship between proper diet and health, many others that I observed stemmed from the lack of money to spend on food. During the food shopping survey one woman told us that she knew her family needed fruit, but when she bought it her 5-year-old who was at home ate it up before the others could have any. She called him her "greedy pig."

Another woman reported that she didn't dare buy canned fruit because her husband would eat the whole can at once. There would be none left for the rest of the family, and no money to buy more. I asked one of the neighborhood workers in our community action program what families ate when the food money ran out before the end of the month. She said, "Bread and potatoes."

In Oregon, many of the Indian women worked in the potato harvest. They followed the digging machine and put the uprooted potatoes in bags to be picked up by the truck. All the cut or damaged potatoes could be taken home. As a result, potatoes

have become a staple for them replacing the traditional roots. Many Indians still do not realize that other foods are needed to round out their diets. In my 4–H group were two sisters who in their food project record reported having nothing but potatoes, corn, and Kool-Aid for dinner for 3 days in a row. Most of the Indian women I knew were either overweight or undernourished. Although there was some obesity among the men, it appeared much more prevalent in the female population.

A limited income places an extra burden on the person shopping for food. When there is enough money, an occasional splurge on extras is not serious. There is still money left to buy the necessary milk, meat, vegetables, fruit, and cereal products. But those with little to spend have to do without the necessities if they first buy the extras. I have frequently observed strong pressure from husbands to buy butter rather than margarine. Many of the women taking part in our shopping survey were selecting the well-known brand and fancy grade of canned fruits and vegetables, and the ground round rather than less expensive chuck or hamburger. The Indians loved fresh fruit and would buy the individually wrapped large delicious apples, or high-priced grapes, cherries, and berries when they were not yet in season. This left less money to spend on the other foods their families needed. Often among those with limited income, cooking facilities are inadequate and it seems necessary to the uninformed to buy prepared foods, potato chips, or doughnuts to have anything to eat at all.

Lack of knowledge and low income make it difficult for the homemaker to provide a nutritionally adequate diet for herself and her family.

The second nutritional problem that I am concerned about is brought to mind by a picture from the January 1967 issue of *The Indian Record*, a monthly publication of the Bureau of Indian Affairs. Here are three little boys, 5 to 6 years old, perched on a curb in the Pima-Maricopa community in Arizona. One is barefooted, wearing a zippered and hooded jacket. The middle boy's tennis shoes are untied. The third wears a tiny sport coat and cowboy boots. A typical trio of 6-year-olds. But the boys in this picture are *too* typical. It says under the picture, "Pima Sprites." Each little boy is drinking a can of Sprite—pop. Pop, a carbonated beverage, is a common denominator of the diets of young children and teenagers in communities where community action programs are necessary. The others, I have observed, are popsicles and potato chips, the three P's.

When we lived at the Warm Springs agency, there was a steady stream of children with pop and other snack foods in their hands passing our house after school every day. This was puzzling. The incomes for the families of these children were less than adequate yet they always had plenty of money for snacks. I have observed the same phenomenon on other reservations and in the sections of Washington where I worked with the community action program. Although we generally agree that the small amount of money available for food contributes to the poor nutrition among low-income families, it is interesting that their children appear to have more money to spend on snacks than children from middle-income families.

This money available for the three P's is not just a problem of snack foods, but at mealtime too. I spent several mornings this month with the woman who cooks for a Head Start project in Northeast Washington. The children's little tables are set up in a corner of the large kitchen. In the other end of the room is a refreshment stand where the school children come at noon to buy pop and ice cream to supplement the lunch they carry to school. When the Head Start children saw the older children buying the pop, or "soda" as they call it, one of them asked the cook if he could have some soda to drink instead of his milk. Thinking to put him off she told him that took money. Nothing more was said until the next day. When he came in for lunch he proudly held out his hand. There was a dime. "That's for soda," he said.

The Head Start teacher is trying to find a method of screening the refreshment stand from the children.

In Warm Springs, the children spent their elementary years in a school on the agency campus. All children were served their noon meal in an excellent school cafeteria. In this way most of the children on the reservation between ages 6 and 12 had a good start toward an adequate diet. When they went into the nearby town for high school, there was no school lunch facility. The reservation students had to carry their lunch or buy it in town. For many reasons they did not like to carry their lunches. Most simply bought potato chips and pop at the local Dairy Queen stand. That was lunch.

At the younger end of the age group, the situation was often the same. In our kindergarten there was one bright but very neglected little boy with the unlikely nickname of "Boss." Boss lived with his old grandmother in a big, drafty house on the highway. Every morning he trudged up the highway to the gas station, pushed open the door, and hopped up on the cooler to slide back the lid. After pulling out a popsicle, he hopped back to the floor, gave the owner the 7 cents clutched in his hand and headed off down the hill to kindergarten eating his popsicle.

One morning I was waiting in the station for the early bus to Portland and witnessed this silent drama. After Boss left, I asked the owner what was going on. "That's his breakfast. He comes in every day," he said.

Maybe in Boss's story is a clue to the affluence of these children. They did have more money to spend on the three P's than my children, but perhaps this was the major expenditure for food in those households. Pop, popsicles, and potato chips in the real sense were substitutes for adequate

meals. Among many middle-income teenagers, they become substitutes only because they destroy the desire for more nutritious food that usually is available at home.

Another common sight in Warm Springs was a baby sucking on a nipple attached to a bottle of orange pop. When we were conducting the survey of food buying practices in Washington, we discovered that many mothers thought orange soda just as good for their children as orange juice. Perhaps this is a common misconception.

This empty nutrition of young people appears to be mainly the result of the lack of understanding of the kind of food the body needs for good health. These children are the victims of ignorance just as are the women who are overweight but don't want to be.

One of the community organizers in the District's antipoverty program used to say to us, "You can't *teach* people anything. You've got to 'learn' them." I finally figured out what he meant. We aren't getting anywhere by deciding what people ought to know, then telling them what we think they ought to know, then expecting them to use this knowledge as we would. We have to let them learn by starting where they are. To do this we have to take time to find out where they are. If we want to improve food habits, we have to start with the food habits they already have and work from there.

This same man also said that education needs to have a "beat." It should be "religified." We may not like what we see in the television commercials but we have to admit that many of them have a beat. They do put across the idea that says something people today understand, building a religious type of following. They make a promise that appeals. Could we apply the techniques of television commercials to the "learning" of nutrition? How can we give nutrition a "beat"?

SOCIAL AND CULTURAL DETERMINANTS OF FOOD HABITS[1]

RALPH PATRICK, *Ph. D., Harvard School of Public Health, Harvard University, Cambridge, Mass.*

I. Introduction.
  Generally not aware of details of our own culture (soak it up).
  Therefore need to get outside and study other cultures to understand factors affecting our own.
II. Case Study of Zulu on Reserves.
  Diagnosis of physical situation.
    16,000 Zulus.
    Extremely poor (couldn't do anything about).
    Poor health.
      Over 80 percent had problems related to nutritional failure.
      Death rate of babies in first year 276 per 1,000.
      Poor general resistance to disease.
      Pellagra, Kwashiorkor, and so forth.
  Problem: Better to treat acute symptoms or do nothing until complete diagnosis of cultural situation is made and change in habits effected? If latter, must watch people die, but results will be more far reaching.
  Attempted solution:
    Get Zulus to grow house-vegetable gardens and get pregnant women to drink milk.
    People were angry at suggestion that diet was poor. "Ancestors were strong powerful men on this diet." People didn't feel undernourished. Bellies were full.
    Women refused milk.
  Research by behavioral science to find out why the resistance and to build a felt need. Ancestors had game, cattle, wild plants and fruits, milk from cattle. However, milk for women and her children was allowed only from cattle she brought from her family herd.
    Game, cattle, wild plants now nearly all gone.
  Putting message in terms meaningful to culture.
    Bicultural people interviewed old people who in time remembered that diet of ancestors was different. (Bicultural people are often missing on education teams.)
    What had seemed irrational response gave way before changed viewpoint.
    Saw need for gardens—then merely a technical matter to teach how.
    On milk—no solution in terms of fresh milk. Not enough cattle. Can't upset people's religious beliefs.
    But found that powdered milk was not called "dust" milk. Therefore was accepted so long as name "milk" was not used.
    Results:
      Infant mortality reduced to 50 per 1,000 in 10 years.
III. Generalizations from study of Zulu involve leaders.
  People resist change predictably. Must first feel need for change. Will always resist changes that seem to threaten them. Also resist change they don't understand or that are forced.
  Methods of approach to change in food habits:
    Diagnose the community as well as the patient. What are the beliefs? priorities? relative values?
    What do people eat?
    What do they think they *should* eat? For special age-sex groups? For particular purposes or occasions?
    What do they like to eat?
  Necessary to challenge our own cultural assumptions.

[1] Text not available.

PROBLEMS IN THE COMMUNICATION OF NUTRITION INFORMATION

JAMES A. BAYTON, *Ph. D., Department of Psychology, Howard University, Washington, D.C.*

My invitation to prepare a paper for this conference asked that I discuss "factors that influence consumer's decisions concerning the foods and the forms of food he will purchase" and to "suggest implications these factors have for—improving communication of nutrition information with the ultimate objective of better food habits of all our people." What I will attempt to bring you is a synthesis of the results of research extending over several years—research directed toward understanding consumer behavior with respect to the use of food products.

The problems in the communication of nutrition information would seem to fall into the following classification:

1. *What* should be communicated?
2. *To whom* should it be communicated?
3. *How* it should be communicated?
   a. Media selection.
   b. Quality of the content of the message.

These various aspects of the problem obviously are interrelated. *What* should be communicated and how it should be communicated in terms of both media selected and content of message) are a function of to *whom* the information is to be communicated. It could be posible that, thinking in terms of two quite different socioeconomic groups, *what* should be communicated is the same for the two groups. In such a case, however, different media might be selected and the particular qualitative form of the message might vary.

It happens that my experience has been mainly in the area of research on *what* should be communicated about foods. The major part of this paper, therefore, will be given over to that problem. I will have some general remarks to make, however, on the problem of the *how* of the communication problem.

The problem of *what* to communicate can be represented by an equation:

(What to communicate) = (communicator's objectives) (consumer state)

In our present case, the communicator's objectives are represented in the statement—"better food habits of all our people." The very fact of having this conference, and especially this particular session, is recognition of the fact that the consumer's state can operate to facilitate or inhibit the attainment of this objective.

The consumer's state is a result of a complex of dynamic functions and forces predisposing him to accept or reject the communications being directed toward him. These dynamic functions and forces are essentially psychological and sociocultural. The psychological dynamics involve physiological and psychological motivational patterns and cognitive components such as perception, beliefs, attitudes, and decision-making activities. The sociocultural influences stem from such matters as socioeconomic class and ethnic group.

The basic contention here will be that consumers have a basic set of parameters available to be brought to bear upon their food choices and food rejections. Research in this area has led me to the view that consumers have 22 such parameters available. (The set of parameters I am about to present were developed for presentation to the Extension Food and Nutrition Specialists Workshop held in Dallas this past September.) The 22 parameters can be grouped into seven basic categories. Finally, note my stress on the idea that these paramaters are available—the extent any one or set of them is used is another matter.

I. Nutrition parameters.
   1. Body growth needs.
   2. General health needs (rather than specific health needs).
   3. Vitality; energy.
   4. Energy "carry-through" (concern over "long-lasting" energy).

II. Economic parameters.
   5. Price, per se.
   6. Value (what you get for the money).

III. Sensory—aesthetic parameters.
   7. Taste-aroma-appearance complex.
   8. Refreshment (especially "coolness"; relief of thirst).

IV. Personableness parameters.
   9. Personableness-in-general (lively; good complexion; bright and sparkling eyes; general attractiveness).
   10. Sex personableness.
      Males—vigorous, athletic; masculinity.
      Females—lovely complexion; nice figure; femininity.

V. Appropriateness (suitability to my kind of person or to given situations).
   11. Age-group appropriateness (milk for children; coffee for older ages).
   12. Status-group appropriateness (class-relatedness of some foods).
   13. Social-setting appropriateness (family privacy; intimate friends, special guests; restaurants).

VI. Convenience.
   14. Convenience in purchasing; availability.
   15. Convenience in storing.
   16. Convenience in preparation.
   17. Convenience in serving.
   18. Convenience in consumption.

VII. Health apprehensions.
   19. Weight apprehension.
   20. Cardiac apprehension.

21. Contamination apprehension (pesticides, bacterial, animal medications, atomic fall-out).
22. Allergies.

It might be noted that quality is not one of the 22 parameters. It is my view that quality is a subsidiary consideration.

For example, if a person is primarily concerned with nutritional matters quality would come into the picture in relation to this particular parameter. If, on the other hand, the person is primarily concerned with sensory-aesthetic motivations, quality matters of a different sort might enter the picture.

Stress was placed upon the concept that these parameters are available for use by consumers. In turning to the issue of how these parameters are used we need to look at three levels of analysis.

The first of these three levels we can call "people profiles." Here we are asking, what is a person's general orientation toward foods? We assume that all 22 of the parameters are not equally important to a given consumer as he thinks about and approaches or rejects food. For one individual the most important things he wants from foods-in-general might be (in rank order) :

1. Vitality and energy.
2. General health.
3. Taste-aroma-appearance satisfactions.

With another person the rank order of the most important things sought in foods might be:

1. Taste-aroma-appearance satisfactions.
2. Price considerations.
3. General nutritional considerations.

Still another person might show, as his most important considerations, as he approaches foods, the following:

1. Nutritional concerns.
2. Health-apprehension concerns.

I have a feeling that this latter pattern of almost exclusive concern over nutrition and health apprehensions is the profile of the food faddist.

The implication of the concept of people profiles should be obvious. The communicator must take into consideration this basic aspect of "consumer state" in developing *what* to say. We dare not assume that all people are equally ready to receive a message containing nutrition information. (On the other hand, the food faddist seems to be "over-ready" and lacking in discrimination in receiving certain kinds of questionable nutrition information.) Before a professional nutritionist begins an educational program, she must have some insight into the pattern of the profile her audience possesses. The problem is further complicated by the occurrence of individual differences in the profiles people bring to bear upon their approach to foods-in-general.

The second level of analysis raises the question of the profiles associated with particular foods. The various food products can be perceived, by consumers, as having quite different profiles across the 22 parameters. Milk, for example, is heavily "endowed" with nutrition concepts. There is also a strong component in the sensory-aesthetic area, especially with respect to cooling refreshment. Better cuts of meat would seem to be heavily endowed with the taste-aroma-appearance complex in the sensory-aesthetic parameter, with price considerations also being critical and with nutritional considerations being somewhat secondary.

The interrelation between the two types of profiles—people profiles and product profiles—is apparent. A person with strong emphasis being given to health apprehensions in the weight and cardiac areas should certainly be expected to have a tendency to reject foods he associates as being primary offenders in contributing to weight and cardiac difficulties.

The communicator in developing an educational program, will have to have information not only on people profiles but, also, on product profiles.

The third level is, perhaps, somewhat more subtle. We raise here the question of whether a particular idea, attitude, or belief about a given food really plays any active role in a person's decision to select or reject that food item. Frankly, we cannot assume that recognition of a nutritional fact will assure application of that fact in planning and buying the food supply.

This point can be applied to any one of the 22 items in our spectrum. Ideas, attitudes, or beliefs are not necessarily indicators of action. It becomes necessary, then, to determine, for specific foods, just which ideas or beliefs have what we can call a "discriminating influence" on consumer selection or rejection of these foods. By a discriminating influence I mean that people who hold a given attitude or belief. Let me give you a case in point. Suppose we establish two groups of people—one group believes it is true that milk "helps produce cholesterol"; the other group does not believe that this is true about milk. Suppose we find now that in the group that believes this about milk, 63 percent say that they drink milk fairly regularly; in the group that does not believe this to be true, 62 percent drink milk fairly regularly. Since practically the same proportions report drinking milk, this idea about milk and cholesterol does not have a discriminating influence on milk-consumption behavior.

On the other hand, suppose the item is "milk is refreshing," and it is found that among those who believe this to be true 75 percent drink milk fairly regularly whereas among those who do not believe it only 30 percent drink milk fairly regularly. The concept milk is refreshing does have a discriminating role in consumption of this product.

It is not until you get to this level of locating these particular ideas which serve a discriminating function in food choices and rejections that you are dealing with the essential forces in the psycho-

dynamics of food products. In effect, you are locating the perceptions that "count."

This summer I had occasion to review over 100 research projects having to do with consumer attitudes and beliefs about a particular food product. These reports contained a wealth of information as to the array of attitudes and beliefs associated with that product. Strangely, however, very few of these research projects investigated these attitudes and beliefs to the level I refer to as the discrimination function. These reports present a great deal of data on the relation between demographic factors and consumption of the product involved—such as age, sex, and socioeconomic status. But there was very little effort put forth to investigate the relation between attitudes and beliefs and consumption of the product.

Up to now we have been discussing problems involved in determining *what* to communicate to consumers. In the area of foods, however, particular attention must be given to problems related to communicating to the homemaker. The homemaker has been described as the "gatekeeper" and her decision-making activities must receive special consideration.

We find a special set of parameters operating upon homemakers. These would be in addition to the parameters represented in her profile as a consumer, per se. Some eight homemakers parameters can be identified. All of these, of course, do not necessarily apply equally to all homemakers:

1. Health and nutrition-sensitivity to meeting the health and nutrition needs of the family; concern over the nutrition value of specific foods.
2. Sensory-aesthetic—providing food and meals that satisfy the taste-aroma-appearance complex.
3. Economic—how to save money on food purchases; how to compare prices; determining how much food actually costs; how to keep within the food budget.
4. Market knowledge—how to tell quality or grade of foods wanted; how to get grade or quality for money available to spend.
5. Family wishes—how to accommodate the demands of the various family members.
6. Time-pressures—how to save time in shopping and in meal preparation.
7. Preparation-pressures—avoiding a lot of "mess and fuss" in preparing meals.
8. Prestige; achievement—obtaining achievement satisfactions in demonstrating how smart a shopper she is; how good a cook she is; how different and unique her meals can be.

Again, we can think in terms of homemaker profiles across these parameters as homemakers approach, in general, the task of providing food for their families. In any event, it seems safe to assume that the homemaker presents some particular pattern in which certain of these parameters operate at much greater strength than others. Attempts to communicate specifically to homemakers would have to take this pattern into consideration.

When it comes to the homemaker and specific foods, we can approach the matter from two directions—(1) what product profiles represent the positive appeals for given foods, or (2) what factors operate to keep a homemaker from making use of particular foods. We can call the latter "barrier profiles." Some research conducted several years ago for the Federal Extension Service of USDA indicated that there was some advantage in studying homemakers' reactions to particular foods in terms of these barrier profiles.

The following barriers seem to operate to prevent homemakers from using a particular food:

1. Price too high.
2. Inability to tell quality or grade.
3. The quality of the product wanted is not available.
4. Sensory-aesthetic (product does not satisfy sensory-aesthetic criteria).
5. Objections of family members.
6. Lack of familiarity with the product.
7. Trouble and fuss of preparation.
8. Possibility of social stigma (friends or neighbors "looking down" on the homemaker and her family because she serves this particular food).

Any given food can be investigated as to the characteristic barrier profile tending to keep homemakers from using it. For lamb chops, for example, the key barrier is "price is too high." For dry milk the barrier profile contains, as its strongest components, family objections, lack of familiarity, and social stigma.

This paper has attempted to provide a basis for attack on the problem of determining *what* to communicate in a nutrition education program. Involved are people profiles, product profiles, and discrimination functions as these operate upon consumer-in-general. There is, in addition, the subset problem of the homemaker as she performs her gatekeeper function. Also, the problem of *to whom* the information should be communicated brings in the matter of "consumer states" as these vary among segments of the population—such as age groups, sex groups, socioeconomic groups, and ethnic groups.

I would like to close with some remarks on the problem of *how* to communicate information about foods, especially as this applies to quality or content of message. Remember my point that, for two quite different groups, the essential message to be communicated could be the same. However, the exact quality or content of this message might have to be changed from one group to another in order to increase its effectiveness.

In any event, the qualitative or content aspects of *how* the information is being communicated could make or break the communication effort. Success here calls for particular creative skills. Now it is my belief that the creative skills needed to explore the problem of *what* should be com-

municated are different from the creative skills needed to develop the most effective qualitative content in the actual communication process. I stress this because sometimes people who are skilled in determining *what* should be communicated are called upon, or attempt, to develop the actual messages. I would not presume to try to define the creative skills involved in developing effective communications, from the qualitative content point of view. I can only call attention to my view that a special set of skills is needed for this process.

In conclusion, if the concepts expressed here have any validity, it becomes apparent that the problem of the communication of nutrition information contains many subtle components. It, also, involves one in science and in art—science as this is used to determine *what* to communicate and art as one attempts to apply this information in communicating to particular individuals or groups.

MAGAZINES: A SOURCE OF NUTRITION INFORMATION

MADGE MYERS, *Instructor in Nutrition, Harvard School of Public Health, Cambridge, Mass.*

Sir James Barrie once said, "The man of science appears to be the only person who has something to say just now, and the only man who does not know how to say it."

In his book, *The Language of Science—A Guide to Effective Writing*, William Gilman says, "Medical science, for a combination of reasons, has been the least communicative, even the most secretive, of the technical professions." It and its journals have shied away from the news media. As a result, the pseudo-scientist has had the "lay" field all to himself.

Fortunately, this picture is changing and changing rapidly. A whole new field in writing is developing. News writers are learning about scientific affairs and scientists are learning to write. The National Association of Science Writers is filling a very important need. These people deserve, need, and should have our wholehearted help. They, as well as we, know that honesty pays; that quality pays.

My assignment is to talk about magazine writing—as a means of influencing the ways people react to or think about food or nutrition or both.

To start this presentation, I remind you that the audience potential is astronomical, if we consider the numbers of people who read magazines—from *Jack and Jill* and *Pogo* through *Popular Mechanics* and *True Story* to *Saturday Review* and *Daedalus*. Without looking up marketing research reports, I would guess that the magazine audience is, at least, one-half the population of this country.

Ayres Directory for 1966 lists the circulation of some of the more popular magazines: *This Week*—13 million; *Reader's Digest*—10½ million; *Ladies Home Journal*—7 million; *Life*—7⅓ million; *Look*—7½ million; *Woman's Day*—6⅕ million; *Red Book*—4⅓ million; *Good Housekeeping*—4⅔ million; *Time*—3 million. Nine magazines with a combined circulation of over 63 million!

Another way to look at the potential is by special-interest group. Take only the people who are calorie-conscious as an example. In Peter Wyden's book, *The Overweight Society*, he quotes some figures from a market research company. This company supposedly conducted a poll in 1964.

9.5 million people said they were *on* diets.

16.4 million people said they were "watching" their diets.

26.1 million people expressed some concern about their waistlines.

Fifty-two million calorie-conscious eaters. This is a considerable audience for weight-control writing alone.

By and large, I think the particular influence magazines have is to the female population, especially the housewife and the teenager. Generally, men read sports, science fiction, comics, and news-type magazines. This is not an area to discount. Certainly, first class, high-quality "stories" on such topics as exercise, diet, heart disease, and physical fitness for space probing are great possibilities. Children read comic-type stuff. Well-done health and food-oriented comic strips could conceivably have some influence.

But, the real, lasting influence is the homemaker. She is the "gatekeeper" in Kurt Lewin's famous "channel theory" of why people eat what they eat. She, by and large, determines what and how food comes to the table. And, remember, the female comprises about one-half the population of the world.

Some social anthropologists consider that women are the most educable members of the population. As mothers, they are most likely to be the ones to modify and change food habits in the desired direction. Ashley Montagu says it is really quite true that since He could not be everywhere, God created mothers.

It is not my intention to talk about this very involved area. It has been discussed, in detail, by many experts and the knowledge applied by some very skillful "people in the market places."

Suffice it to say, that with the proper approach it is probably possible to modify any habit, whether it is related to food or otherwise. Man is able to unlearn old habits and learn new ones. But, unlearning is difficult, especially if the habit is

an enjoyable one, and in the absence of sufficiently compelling motivation.

And in our culture, magazines are a fairly potent force in molding attiudes, behavior, and opinions.

So, let us consider magazines. What types do people read? The circulation figures tell the story:

1. Encapsulated, predigested, opinioned, *short* review of all that is *news*. *Reader's Digest* and *This Week* are so far ahead of other magazines they almost need to be in a class by themselves.

2. Picture stories, or stories with emphasis on the visual. *Life* and *Look* are "proper" or sort of elegant-type versions of peep shows.

3. Magazines specializing in features with which one can become personally involved. *The Ladies Home Journal* and *Woman's Day* have solved the formula.

Why do people read magazines? I have no real facts, just opinions:

1. Entertainment.
2. Relaxtion.
3. Pass the time (as in traveling).
4. Curiosity (especially about other people).
5. Quick information and preformed opinions.

Therefore, given this milieu, if you have the opportunity to get into print in a magazine, make the most of it. Generally speaking, editors seek you out. You have to have something to say they think has reader appeal, or *be* someone with reader appeal. Usually, you will have had to have "made your mark" before you get into magazine circulation.

Then, you will have to tolerate "treatment" of your material or of yourself that goes against the grain of the usual professional-type person. You must realize that you may look foolish to your associates, be considered a "publicity hound." And you must be willing to accept public-eye type appraisal. Because, to be effective, you *cannot* be anonymous. Carleton Fredericks isn't! People like to relate to you—to know about you.

Be willing to be opinionated. This is no place for the rationalizing presenting-both-sides-of-the-problem, dispassionate approach. Magazine readers are like column readers. They want to know what *you* think. Be bold. Borrow all the "popularizing" techniques without "sensationalizing." Dr. Gilman says that "popularizing" makes facts understandable to the many. "Sensationalizing" preys on the ignorance of the many to gain attention.

This type of tight-rope walking takes considerable skill, and if not done well as every scientist knows, the results can be disastrous. Misquotation, misunderstanding, and even libel are some of the dangers. In an article several years ago, we tried to debunk at some length the so-called "Mayo Diet"!! Two days after the magazine came out, we had 15 requests for copies of the "Mayo Diet"! Dr. Stare was sued for libel by the Boston Nutrition Society because he expressed his opinion, boldly, in McCall's magazine about some of the society's propaganda.

The type of subject matter is very important, as is the treatment of it. This is no place for a *general* discussion of nutrition, or nutrition problems, in general. This is the place to talk about special or specific areas. Readers relate better to this sort of orientation.

Write about Sandra, the fat child, or Mr. Jones' heart attack, or Mrs. Smith's diverticulitis, or the Brown family's food budget, or how popular, busy Kim, the bachelor girl, can use convenience foods. This is the way to discuss obesity, dietary modifications for prevention of atherosclerosis, bland diets, food economics, and new food products. A couple of years ago, we had an article in *Parents'* magazine about planning nutritionally safe meals for a family. It wasn't too bad an article, but it was far from an attention-getter. True, we talked about a particular family, but we did not *begin* the article with some "inside" stuff about this family. An article in *Woman's Day* was some better, but still had too much information in it about too many subjects. But, with the help of some of the experts like Gwen Lam and Ronald Deutsch, we have all learned a lot about how magazine editors look at copy. The whole idea makes us shudder a little, but remember, what is the use of writing if no one reads what you write?

I am far from being an authority, but I have learned a few things about techniques which are (or were) hard for me to accept at first. They are not learned, scientific, professional approaches. Readers of "lay" publications like:

Stories
Games
Quizzes
Questions and answers
Menus
Recipes—above all—recipes

We all know that case studies are not good scientific evidence of anything, that this is grist for the quackster's mill. But, if we talk about Julie and her personal problems with weight control, we can get our ideas and knowledge across a lot faster than if we talk about the investigative details leading to our conclusions.

Now, a few words about style.

1. The rules we follow in scientific writing are really a nuisance and very dull. Scientists know how to scan technical writing, how to read charts and graphs, where, in an article, to find the statement that tells what is wanted. Ordinary readers don't have these skills. If the first two or three sentences, or the pictures, or the captions don't interest them, then the gems at the end are lost.

2. Be bold. Put your conclusions first, using some sort of attention-getting device. The statement may announce success—or failure; a step—or a stride. But, above all, it should be clear. The goal is *clarity*.

3. Don't overestimate the reader. Use simple, everyday language. Remember, people weren't born knowing about calories.

4. Don't underestimate the reader. Condescension is as bad as overconfidence in the public's level of information.

5. Write as though the proof were to be read on radio or television: short, clear, concise sentences.

6. Take time to rewrite, rephrase, delete.

7. Take time to think about the reader; about what interests him rather than you.

8. As one writer said, "Whenever you feel an impulse to perpetrate a piece of exceptionally fine writing, obey it wholeheartedly, and delete it before sending your manuscript to press."

9. Don't be afraid to heed the advice of the experts in the writing-for-the-public game. They know what sells. It may offend your sensibilities, but it sells magazines. Look what Mr. Kahn did for Herman Taller's first feeble efforts!

10. And finally, "The formula for acquiring a good literary style has two ingredients: reading and practice."

If you get the chance to write for publication, I refer you to a couple of excellent books.

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2. *The Language of Science—A Guide to Effective Writing*, by William Gilman. Harcourt, Brace and World, N.Y., 1961.

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ENJOY GOOD FOOD: KEEP NUTRIENTS UP—CALORIES DOWN

IDA JEAN KAIN, *Newspaper Columnist, King Features Syndicate, Washington, D.C.*

In our land of plenty, nutrition information has of necessity taken a different turn. With push-button living, we need to take a fresh approach to the importance of good eating habits. Our food technology has outstripped our calorie requirements and our disciplines. There is an abundance of good food available the year around—convenient, delicious, irresistible food. But our whole way of life has changed. In modern living we exercise so little we need a lot less food.

We are no longer big calorie spenders. When total calorie requirements decline, a larger proportion of the calories must be in the protective foods, for they are the essential *nutrient carriers.* It takes good eating habits to keep nutrients up and calories controlled. On poor food habits, Americans are likely to be overfed but not well nourished.

The most startling change in the weight picture is the widespread overweight in all age groups. Health authorities point out that obesity in children is slowly but steadily increasing throughout the Nation. Today we have chubby children, roly-poly preteens, and fat teenagers—in addition to the millions of seriously overweight men and women. Automation and the automobile have robbed us of the natural way to control weight. The solution is more exercise and sound dietary practices.

The best approach is to take a new attitude toward food. Good eating is not synonymous with overeating. Periodic dieting is not the way to control weight. Isn't lopsided dieting keeping too many Americans from learning how to eat to be well nourished and hold the weightline?

Why do faddy diets flourish? Everybody loves to eat, but nobody wants to be fat. The search for a magic diet has become a national obsession. Some version of the calories-don't-count type of diet keeps coming back like a siren song—tho it's sheer Lorelei on-the-rocks. Last summer the furor was so great that one Congressman, Carlton Sickles of Maryland, introduced a bill to ask the Surgeon General to make a study of reducing diets and report back to Congress. Nothing came of the bill. Dr. Luther Terry, who was then the Surgeon General took a dim view of the whole thing. His organization had worked diligently to change the Nation's smoking habits. He did not propose to start anything else that involved *habit.* There it is—habits are not easily changed.

What role do newspapers play in influencing eating habits? To set the stage: What writers deal with health and food? The science writers, food editors, columnists, and medical doctors who write health columns.

The role of the science writer is to interpret scientific findings in layman's language. Their audience is the educated adult, and they influence eating habits very little.

Food editors: News media, too . . . from the standpoint of new food products, new recipes,

seasonal foods. They write about food, and *good food is good nutrition.* Many food editors are home economists, they know their business. They turn out reams of delicious, delightful copy.

For source material, all who write about food look to Agriculture . . . for authoritative information on food values, the nutrients, food allowances, preparation, costs, trends, marketing . . . everything pertaining to food. Government nutritionists and scientists have the leadership role.

Food industry provides excellent source material for food writers. Through individual companies and associations, the food industry takes a responsible role in trying to influence eating habits and to promote good nutrition.

But, nutrition and eating habits are not NEWS—people have been eating all their lives. They want to read about irresistible food to serve the family and to impress their friends. Nutrition information can be blended in . . . provided it is delicious eating.

When overweight becomes a problem—do homemakers and people in general reason they must step-up exercise . . . and cut down on the size portions so they can continue to enjoy good food without fear of fat? NO. They look for a magic way to lose weight *fast*, so they can go back to eating as usual.

Diets that do nothing to re-educate eating habits are futile. Both reducing and weight control depend on our everyday eating habits.

Our way of life has changed. To go along with the same size portions, the same size dinner plates, and continue to clean up the plate—leads to overweight.

There seems to be a lot of latitude in people's minds as to what a serving size should be.

Proof that portions are too ample . . . today's homemaker is quite apt to ask for a diet that *the whole family can follow.* What was good enough for our ancestry is too much of a good thing for us. Portions should be a little smaller. The focus on portions would be in keeping with the idea of "cut down, do not cut out."

Could restaurant portions be smaller? This is not as simple as serving less food for a proportionately lower price . . . for the high cost of service figures in.

Speaking of service: I talked with Congresswoman Leonor Sullivan of Missouri about food prices. Because Mrs. Sullivan has always had a strong interest in consumer issues, I asked her how she dealt with the homemaker's complaints on the price of food. She deals with the issue by emphasizing how much we are getting today for our food dollar, in service, in safety, in variety, in convenience. This is a positive, realistic approach . . .

Back to food habits: What is the best way to eat to keep nutrients up and calories down, so as to prevent creeping overweight? Ruth Leverton in *Food Becomes You* expressed it this way—food habits are good when we are willing to eat the kinds and amounts of food which science has proved we need for optimum nutrition. Science has the way . . .

The well-balanced pattern is the one in which essential nutrients are in the right proportions. The nutritionally important foods are divided into four groups: Milk group; meat group; vegetable-fruit group; bread-cereal group. When foods from one group are slighted, a number of nutrients are in low supply.

How do we get this information across? The purpose of communication is to get into another person's mind—to do this you have to *stimulate their interests.*

I've been at this business of nutrition education and eating habits for a long time. I know that people do not want to be informed . . . certainly not reformed . . . but they yearn to be inspired. The approach must be positive and promising. It must be specific, not general.

Writing to homemakers, I make it specific as to whether it is for career women, tired young mothers, or bored middleagers. To stimulate interest, the lead must be provocative. Half of all women between ages 45 to 54 are in the labor market today . . . working women need superior nutrition. To middleagers—joy in everyday living makes for success in slimming. To young homemakers, I toss a challenge. Use all that fresh, young enthusiasm to make life joyous. You can turn slimming down and shaping up into an adventure.

Nutrition is a living, changing, exciting science—information about it should never be dull or unimaginative. Good nutrition makes for rich, full, happy living.

Sharing is the very heart of my column. People bring life into it. Readers share their experiences—their struggles, setbacks, heartaches, and their triumphs.

In writing to TEENAGERS, I emphasize EAT AND BE ACTIVE. Get off the faddy diets, and on to exercise.

Speaking of faddy diets: Any diet that appeases hunger and reduces weight is bound to create a sensation. It's heady wine to be told that you can eat all you want, and drink all you want, and have the calories disappear in some mysterious metabolic process. Even intelligent people lose their reason and listen to the sweet music or promise.

Jean Mayer summed it up when he said that the reason most overweights reduce has little to do with *health.* They want to see the pointer on the scales go down.

The new approach to weight control is directed toward body composition. The significant question is this—what proportion of your weight is in body fat? On a reducing diet, the important question is what are you losing—water, good healthy tissue,

or excess fatty tissue? The overweight public should be advised how to eat to build leanness and reduce excess body fat. Alerted, they can stay away from faddy diets.

We need a clearing house where the people can get authentic, specific information. The public is receptive. Today, people in all age groups, starting as young as 10, are seeking nutrition information.

RADIO—AN OPPORTUNITY FOR THE NUTRITION STORY

JACK TOWERS, *Supervisor, Radio Productions, Office of Information, U.S. Department of Agriculture, Washington, D.C.*

It seems to me that nutrition, at least *good* nutrition, is a lot like motherhood, 4–H clubs, or payday. Everybody is *for* it . . . at least no one is against it. Yet, for a person to take advantage of good nutrition, requires considerable motivation and doing. The science that relates to proper diets is complicated and highly technical, and there's chance for plenty of slips between the laboratory findings and the average evening meal. Obviously, if people are to get any benefit out of the principles you nutritionists discover, you or someone has to bridge the gap between the scientific findings and our everyday bill of fare. It so happens that most of us judge and choose our meals on the basis of taste and visual appeal.

It's plain to see that you who are the authorities in this field, need to get a fundamental lesson over to the public. Some of you, I'm sure, work at this task exclusively. You've accomplished much in educating the public on choosing foods. I could be easily convinced that the rash of young sons who grow 2- and 3-inches taller than their daddies is the result of better foods today than we had in past generations. But then, we hear that the military turns down a high proportion of inductees because of poor physical condition, due partly I assume from poor diets. So you have a long way to go before the public fully understands and puts into daily use the nutrition knowledge you have on hand today. I am sure that radio is an excellent means for you to reach the public with your message.

As a broadcaster, I am aware of the many virtues and advantages radio has in reaching the public.

Radio is personal, and over the years has proved to be an excellent way to sell ideas to people. Look at the great advertising industry that uses radio to reach the public. This is the day of the transistor radio, which means that practically every person in the country has one or more radios handy whether at home, going to work, traveling across country, or on vacation. Radio is always there. And very important to you and your nutrition story . . . radio is a daily companion to homemakers, who are in best position to react to any message on food you may have. She can listen to the radio while carrying on most household tasks, while television rather demands that she stop and watch.

Radio, though, does have some disadvantages compared with other communications media. Your nutrition radio broadcast needs to be aimed at getting over rather broad ideas . . . not specific statistical details. Take your own listening. Following a news story, or interview, what is it that you remember? Two or three broad basic facts, and not many of the details. A radio story hits and goes. You have nothing to study over and reflect upon as you do with the printed page.

So I suggest that when you have the opportunity, you use radio for what it can do best of all—put over ideas and spark a reaction. Leave the detailed explanations to other media, and use radio because it does a good job of reaching a major part of the public you are trying to reach—namely, the American housewife.

I'd like to give you a few suggestions to keep in mind when you do use radio to tell your message.

First of all . . . make your radio story *interesting*. Don't be content to run through a few statistics that prove your big point. Make the story *gripping* . . . "hair-raising" if possible. Pull in some striking illustrations—use the dramatic example. A few weeks ago at USDA we did a story on proteins with Dr. Aaron Altschul of the Agricultural Research Service and Dr. Evelyn Spindler of our Federal Extension Service. We asked Dr. Altschul why proteins were so all-fired important in our diets. His answer concluded with this:

"A child's brain reaches 90 percent of its weight by the age of four. The normal development of the brain requires all the ingredient that go into it which includes protein. If the child is at a protein-deficient status during that period, then its brain does not get normal development, and the child never achieves maximum intellectual function."

Well, don't you know that every mother and dad, too, who heard that comment thought immediately of their own youngsters . . . and will remember that basic fact everytime they hear a mention of protein? I think they will. I know I do.

I can illustrate this again with my own experience. And it does not deal with radio. Back when I was in the fifth grade, we were taken to see a silent motion picture on care of teeth. The big point

was that when you brush your teeth, you brush *up and down*... not just in and out or back and forth as we're inclined to do. The film illustrated the *why* by showing a rickety wooden floor with slight gaps between the boards. Some cornmeal or something similar had been spread on the floor. We saw a close-up of a broom sweeping *across* the boards, which left cornmeal in the cracks. The words flashed on the screen telling how crossways brushing of teeth missed a lot of food particles the same way. Then the broom swept *with* the boards, and all the cornmeal between the boards came out slick as a whistle.

Well, this made a deep impression on me. I have brushed my teeth *up and down* ever since. I believe these are the kinds of incidents and illustrations that will sell your message and motivate people to follow through.

Another suggestion, tell your story in terms of the listener. To the extent you can, drop your laboratory and professional lingo. Talk in terms of pimples, overweight, your figure... in other words, the everyday words people use when they talk about your subject. By doing so, your professional standing does not suffer. Quite the contrary, with layman terms, your story will get across to the listener better, and you stand as more of a hero than you otherwise would.

Take Leonard Bernstein. One of the Nation's top musical figures. But at the same time he is one of the best TV teachers I have encountered. At least part of his secret is his use of vivid illustrations of such technical points as musical modes and musical forms by quoting passages from songs of the Beatles—he even sings a few bars. He gets his point across to his young audiences so they will remember it, and his eminent musical reputation continues even brighter than before. I contend that the place for your laboratory statistics and technical reports is in your nutrition journals and technical bulletins... decidedly *not* in a broadcast to the public.

Another point, in your broadcast... try to make a *few points well*, with good lively illustrations. Leave the rest of the story for another time.

When you get to the actual task of figuring out what sort of story to tell in your broadcast, I think you nutritionists are in a beautiful situation. Your story, nutrition, ties in with the really relevant events in the world right now. There's a nutrition story in the space program... in Vietnam... in the poverty program . . . certainly in the world food picture. And just because something is ancient history doesn't mean everybody has heard about it. And those who perhaps have forgotten it and can very well stand a reminder. You can use all kinds of devices to get into the story and grab your listeners by the ears at the same time. Tie in with the season, maybe by references to skiing or the basketball season. If there's a heat wave, maybe you can tell how a person needs a balanced meal even though he doesn't particularly feel like eating... and explain *why*. The why is real important to a story like yours. It gives the listener a bit of understanding of his own, and this puts him on your side.

Other story leads . . . maybe the local market is flooded with some in-season, lower priced food. Tie this in with a nutrition lesson of some kind. In the spring when teenagers are involved with their proms, it might be a good time to tie in diets with complexions. Summer and the bathing season bring on the silhouette problem. Maybe you have a story of how some vital nutrient was discovered and cured or controlled some illness. It seems to me you can even use old superstitions and fad diets as jumping-off places for whatever nutrition story you have to offer.

The word *nutrition*, it seems to me lacks appeal, unfortunately. As important as good nutrition is, the word doesn't sound vital. It is sort of an academic word, and doesn't spark action or invite a response. Therefore I think nutrition needs a good steady push from you. I urge you not to sit back like a wallflower, waiting to be coaxed and wooed into doing some radio stories. I suggest that you, either alone or with your colleagues, seek out professional radio help at your institution or your radio outlet . . . and plan ways to get your story of food to the public. I assure you, no broadcaster likes to turn down a good story. Good nutrition is urgent and significant to every segment of the public. You can present radio broadcasts and convince many people of this.

But I urge you not to feel the job is done after you've broadcast two or three stories. Different parts of our population listen at special times during the day. Your story would need telling on different kinds of shows . . . and then told again and again in different forms. It's hard to imagine the tremendous daily flow of information to the public that is carried by the 5,000-odd radio stations in the United States. It sort of demands that your story be told often in various forms, because the listening audience is constantly on the move, tuning in and out. Take advantage of any new discoveries or event in the world of nutrition to present your story.

Realize that when your nutrition story is on the air, you have the opportunity to capture everyone of the thousands or millions listening to you. Grab them by the ears with your most dramatic angle. Involve them with your message. Compel them to take your story to heart, and make radio serve you and the people you need to reach.

TELEVISION AS A MEANS OF INFLUENCING CHANGES IN NUTRITIONAL HABITS

LAYNE BEATY, *Chief, Radio and Television Service, Office of Information, U.S. Department of Agriculture, Washington, D.C.*

Today we are studying what factors influence people to choose the food they choose, assuming that they are people who do have a choice in what they eat. What does television have to do with this? Television may be blamed, of course, for the TV dinner. I know *some* people who like them. Television can also be given much of the credit for the growing popularity of other convenience foods, with the preparation almost all built into them. Television takes the place of the visual demonstration that used to be held in the home, at the school, at the gas or electric company auditorium.

There is some difference between the reactions of a captive audience and a voluntary audience to the teachings on television.

Classroom television is pretty much like classroom teaching of any kind except for the vast added dimensions it gives. Students will respond to imaginative and skillful teaching either way. Adults watching a closed-circuit program on foods probably are already interested in what they can learn, or they wouldn't be there. The noncaptive audience, the person, adult, or child, who has a choice of watching a certain sequence on television or of not watching it, or of watching it and not paying attention, is the one we really are talking about here now.

Attendants at the city-water works have said that during prime television viewing time they can tell from the increased flow of water in the city mains when the commercials come on. And yet some of the most creative minds we have today are addressing themselves to the creating of those commercials. Sometimes, in fact, the commercials are better than the programs. Last month I attended a session in New York at which the 100 television commercials of 1966 which has been judged best, in terms of increased sales of the products, were shown and discussed at a sort of clinic sponsored by one of the trade magazines. The commercials which were mildly lighthearted, but not avant garde, or wild haired, or way out, were in the front running. Commercials which tended to snob appeal for their products, automobiles mostly, were given the back of the hand. So were the gimmicks. The hat biters and the eye blackeners, after 4 years of use, were downgraded. These were, of course, professionals doing the judging.

One success story, not this year, but earlier, is the one racked up by Metrecal. Who does not number among his friends at least a few who joined the Metrecal bunch for lunch—at least for a while?

I remember as an adolescent, eating great quantities of Fleishmann's yeast cubes, because they were said, by someone, to be good for the complexion, which was one of my greater concerns in those salad days. For the same reason I almost stopped eating meat for a while. It wasn't television that influenced me then, but it was a real appeal about something important to me.

But back to modern times. The Jolly Green Giant has probably sold more peas than Tennessee Ernie Ford and his pea pickin' friends ever picked. The Jolly Green Giant is a lighthearted bit of whimsy that amuses and entertains, while preserving the dignity of the Giant, and incidentally the product—even in the one with the fractured French about the little peas.

This, of course, is done with cartoons, which are expensive to produce—but at the same time quite effective. On that point, may I mention that The Humble Oil Company's tiger-in-the tank idea didn't get off the ground while they were using film footage of a live real tiger to make the point. But when they substituted a cartoon drawing of a personable, friendly, smiling tiger—he became a symbol for ESSO and ENCO gasoline known around the world and after 3 years is still going strong. On a national scale, perhaps good eating habits could be taught on television with something equally as effective—by cartoons—and it might be worth whatever it cost. The Advertising Council might be interested.

Television won't have much direct bearing on food choices of viewers unless it talks about food. You could say that if television influences people to eat their meals in front of the TV set, or to spend their money on other things to the detriment of the diet, that's an indirect influence. A direct influence would be an interesting, attractive television presentation, telling an attentive audience about a balanced diet, a food product with certain attributes, lists of food plentifuls at attractive prices.

People watch television for these reasons: to be entertained, to be up to date on the news, and to be informed. In the beginnings of television in this country, there were many food programs on the air. Not so much any more. When one long running food show was dropped, I wrote to the network director of programs and asked him why. He replied that the day of the pot roast on television is over. To me, that meant that not enough imagination, not enough innovation, not enough showmanship was going into those food programs. Why pot roast so often anyway?

The phenomenal success of Julia Child's French Chef program on educational television is not the recipes, popular as they are. It's showmanship, of the very special kind that Julia Child brings to the tube. And it isn't all natural. I'm told that most of those cute little things she does like indicating, on her own anatomy, where a certain cut of beef could come from on a bovine, are talked out ahead of time with the director. They told her how to act when she makes a mistake. She takes to it, of course, with a lot of natural flair. You may not agree with everything Julia Child says about food, nutrition, and recipes, but her success as a television-food fixer is established, as witness the sale of her cookbooks. It wasn't the right or wrong of her recipes that did it. It was showmanship.

You don't have to be a Milton Berle or a Judy Canova to be successful on television, not even a David Brinkley or an Arlene Francis.

When people are left to plan their own diets, all sorts of interesting and often detrimental things can happen. There was the teenage girl, for instance, who decided, when mother was away, that the ideal lunch for her to fix for her father, would be watercress sandwiches and chocolate fudge. Many old people, I am told, are liable to eat notoriously inadequate diets if left to their own devices. If I were going to try to reach young people or old people or both, I would use television if it were available to me.

Some of the nutrition-connected stories that come to mind which have always fascinated me include the old one about how British sailors happened to be called "Limeys." They ate the limes for a long time before they knew why the limes discouraged scurvy.

With the proliferation of television stations now, despite the priorities given network programs, news, sports, movies and all other TV fare, there is, quite often, an acceptance, sometimes even a hunger, for good local public service programing of the type that nutrition education could fit into. Besides, what would be wrong with including some of this kind of material on sponsored programs? The Department of Agriculture lets its material be broadcast on sponsored programs, right along—provided we aren't made to appear to be endorsing a product.

But talks, lectures, even dialogues aren't likely to convince anyone if they are wordy, pedantic, dull, too scientific, or even too elementary.

Plan a television presentation, or a series, with your audience in mind. You may prepare something for a children's program, perhaps a regular feature. The chances are the most effective presentation on a program like this would be done by the regular star of the program—an attractive lady, or possibly a rabbit—who has already won the confidence of the juvenile audience.

Regardless of who does it, the message must have an attention-getting lead. Start off with something interesting—perhaps even surprising in the opening sentence, or opening scene. But don't be overbearing.

An audience watching a television program is not a captive audience. Don't save all your good lines until the end, as in a short story or play. Put at least some of them in the opening, to do as Dr. Forrest Whan used to say, "grab your audience by the ears." This might be done visually. One way might be to show pictures of how much taller Japanese children are growing nowadays that they are eating better than they did a generation ago. School lunches, I am told, have such a success story in Japan.

Age groups are likely to be interested in examples and stories of their own kind. Kids are interested in other kids. So are mothers, of course. Old people are interested in other old people, teenagers in teenagers, and so on.

Get some facts and examples that will really punch home. Make generous use of visuals (but not many graphs and statistics—people won't remember them). (Pictures or drawings of the relative size of kids is better than a graph.)

Don't use visuals just for the sake of visuals, though. Have them mean something. Be light hearted, but be careful with humor. Humor that comes naturally is fine, but manufactured humor often will fall flat.

Spend some money, if you can, on film clips, for insertion into live programs showing scenes of good nutrition practices or results. Things that might be difficult to recreate live in the studio—get the TV station program director's advice on how to prepare materials of this type.

The nutrition education leader who wants to make the best use of television to meet her needs would be wise to take note of the facilities at hand. If you operate on a national scale, think in terms of cooperating with networks and national advertisers, the Advertising Council, or some sort of widely distributed service of TV materials for local program producers. A study of some of these programs, and talks with a representative cross section of the producers would be wise. Material should be sent to stations only on request, however.

Go to the television station people in your State, or your city, or your county, or your region, with a plan of what you would like to do. Know the message you want to put across this month or next month, or within the next 12 months, for this particular area. Take stock of the resources you have—money, visuals available, people who can appear on television or spend a little time working with the station producer. The station people, more likely than not, will help you plan some programs. They don't have to be long ones, either. Sometimes it is possible to sell a message better in 20 seconds, than in 30 minutes.

DEVELOPMENT OF BASIC NUTRITION CONCEPTS FOR USE IN NUTRITION EDUCATION

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Nutrition education depends on communication—by word, deed, and example, soft-sell, hard-sell, and motivation. Nutrition education also depends on the facts and ideas that are sent through the communication process.

An outgrowth of our 1962 Conference was the desire to have some consensus among nutrition workers as to what facts and ideas should be communicated. It was recommended that some basic concepts of nutrition suitable to communicate to all people be formulated. Conceptualization is a time-honored approach to developing an array of the most important fundamental facts about a subject—in this case, nutrition—that will have an impact on human thought and action.

We entered this century with a set of basic concepts of human nutrition that Langworthy published in the Experiment Station Record in 1898. They are called the "Laws of Nutrition" and a footnote explains that they attempt to state theories in accord with the consensus of the majority of investigators. I have condensed them slightly here:

1. A certain amount of food material, that is, protein, fat, and carbohydrate, is required for maintenance. Mineral matter is also essential, but very little is known regarding the kind and amount necessary.

2. A more abundant ration is required for muscular work, fattening, and milk production.

3. Food supplied in excess of all needs is stored, in part at least, as reserve material, principally as fat and glycogen.

4. Body fat may be formed from food fat or from carbohydrate, and doubtless from protein also.

5. As furnishers of energy, the different nutrients may replace each other in approximately the following ratios: Protein: fat: carbohydrate as 1:2.5:1.

6. The nutrients of the food combine within the body with oxygen of the air and undergo combustion, thus liberating energy for the body.

7. All nitrogen (the hallmark of protein) is supplied by food and none is excreted as gaseous nitrogen in respiration.

8. An animal adjusts itself to its nitrogen intake and comes into nitrogen equilibrium at different levels of protein intake.

Subsequent research has expanded and extended these concepts but never contradicted them. Many concepts followed and were springboards for further research and knowledge. Consider the impact of the one suggested by Casimir Funk in 1912 that certain diseases such as beriberi, scurvy, and possibly rickets, were caused by a *lack* in the diet of special essential substances. He suggested that these substances be called "vitamines." Soon there followed the concept of McCollum that small animals could be used as biological laboratories for studying nutritional requirements. Like pebbles tossed into a lake, the concentric circles created by these two concepts changed the entire approach to the study of nutrition. Equally significant in determining the direction of nutrition research was Sherman's concept that man can influence his internal environment, improve life expectancy, and extend his prime of life by eating the right food and being well nourished.

The development of the science of nutrition constitutes one of the greatest advances toward controlling our environment in relation to health. The science of medicine has given us anesthetics and surgical procedures to aid in correcting errors and abnormalities, sterile techniques and immunizations to prevent many diseases, and antibiotics to fight others. But nutrition has given us the knowledge that makes it possible for everyone, through individual responsibility and action, to have a significant measure of control over his well-being. To exercise this control, every individual must be informed and motivated. This is the function of nutrition education and decisions must be made about the information that should be available and communicated.

To take leadership in making such decisions, a subcommittee of the Interagency Committee on Nutrition Education was appointed to develop some broad, research-based statements. Recognizing that concepts are the "meanings" that direct a person's responses and decisions, the committee selected those they considered were most needed by everyone in making decisions about food that would promote a desirable level of health and growth. These were then expressed in lay language to insure that their meaning would not be changed even inadvertently by different interpretations and rephrasings. It was most important that the concepts reach the public with their meanings intact.

These concepts summarize all the nutrition knowledge that is applicable to food-for-people-for-health. As generalizations, they reflect the research findings that constitute our newer knowledge of nutrition. They do not include all that is known about nutrition science, but they do cover the minimum of information needed for wise food selection. They also represent a consensus among nutrition scientists and educators about which

facts and ideas are so important to health and well-being that all people should understand them.

The full committee of ICNE approved the concepts for release and testing. Some reports of their use will be given this morning. As background, I have been asked to review the concepts from the standpoint of content and intent:

1. "Nutrition is the food you eat and how the body uses it."

This generalizes the knowledge of the relation of food to health, including the processes of digestion, absorption, and metabolism, and the interaction with enzymes, hormones, and other components of the internal environment. This is a short version of the definition formulated by Graham Lusk in 1917 and still accurate today, "Nutrition may be defined as the sum of the processes concerned with growth, maintenance and repair of the living body as a whole or of its constituent parts."

Most important to us now is that this concept gives a dynamic definition of nutrition, indicating that it is more than just food—it is the food you eat and how the body uses it. It also gives the scope of nutrition, and it does so in terms of the food we eat. It is positive; it is forward looking; and it involves individual action to a large extent under individual control—eating. There is nothing here that implies that nutrition is eating what you don't like because it is good for you. Here nutrition is put into the context of a means or a process to a desirable goal—to live, to grow, to keep healthy, and to have energy. Many of the barriers we face today in nutrition education exist because this concept is missing in the minds and experiences of our clientele.

2. "Food is made up of different nutrients needed for growth and health."

This concept generalizes on the composition of food, its nutritive value, its need by the body, and the flexibility in choice to achieve an adequate diet. Each of the five subconcepts contributes to the idea of the need for a variety of foods and the interdependence among foods, and among the nutrients furnished by them. Most important is that food is the best source of nutrients and, therefore, we can and should get our nutrients from food.

Food analysis is a key science on which we are becoming increasingly dependent as we learn about newly identified nutrients and the body's need for them. Without the expertise and dedication of our scientists in this often unrecognized field of service, we would not be able to translate nutritional needs into foods we eat.

The essential tool for developing and applying this concept is a daily food guide. We have such guides that represent the consensus among a group of experts as to the best translation of nutrient needs into reasonably flexible patterns of food selection. Probably the most widely used one today is the Department's "Food for Fitness, A Daily Food Guide," successor to the "Basic Seven." Because this concept emphasizes food as an adequate source of nutrients, comprehension and application of this concept is one of the strongest defenses that our clientele can have against food faddism.

3. "All persons, throughout life, have need for the same nutrients, but in varying amounts."

This concept generalizes on the Recommended Dietary Allowances of the Food and Nutrition Board. The allowances are themselves a research-based quantitative concept of nutrient needs of healthy people of different age, sex, size, and activity. Like most present-day concepts, they were developed by a group of experts representing the best and broadest knowledge of the times. Of course, RDA's include a measure of compromise but they are a consensus of fact and judgment, intended as a guideline and of great usefulness to all who have need of quantitative values.

Our clientele will seldom have occasion to need to know these quantitative values except those for energy where the balance between requirement and use is both crucial and manageable. The translation of the nutrient allowances into food guides has provided us with an indispensable tool—one that permits the maximum freedom in choosing what we will eat that is consistent with safeguarding our nutrient intake.

This concept like the one before it aims to protect our clientele from charlatans or self-proclaimed specialists by stating that nutrition scientists are the ones to make the suggestions about the kinds and amounts of food needed.

4. "The way food is handled influences the amount of nutrients in food, its safety, appearance, and taste."

This, the last of the concepts, generalizes on the preservation of nutritive value and eating quality at every stage in the field-to-table food chain. Nutrient content, appearance, and taste are not to be viewed as constant, rigid attributes unaffected by technological assault and immune to destruction or damage. These attributes are vital, responsive components of food and must receive proper care if their values are to be preserved for our benefit and enjoyment. Research-based directions for the selection, care, and preparation of food combine procedures that insure safety, maximize eating quality, and minimize damage to nutritive value. Nutritive value sometimes has to be sacrificed in the interest of safety. There can be no compromise here. Compromises are possible and frequently desirable, however, between maximum nutritive value and eating quality in the interest of acceptability.

A consensus among any group of experts such as the ICNE and its counterparts is both a milestone of accomplishment and a springboard for

future efforts. I predict a bright future for those who use these nutrition concepts and those who acquire these concepts to guide their food selection. The concepts can be the content or subject matter of *what* is communicated. The next step is to gain skill in how to communicate—how to create a climate for learning that will promote behaviorial changes in eating habits, and how to use the appropriate techniques for reaching people of different ages, cultures, and economic levels.

Concepts are as dynamic as the research findings on which they are based. Like the dietary allowances and the food guide, they will need to be reviewed from time to time. As research establishes more facts, the concepts may require some expansion, or revision of wording, or change in emphasis to keep the interpretation of research sound. But like the definition of nutrition given by Lusk 50 years ago, these basic concepts of nutrition for nutrition education can remain useful and dynamic during the decades ahead.

Basic Concepts for Nutrition Education

Developed by the Interagency Committee on Nutrition Education

1. Nutrition is the food you eat and how the body uses it.
   * We eat food to live, to grow, to keep healthy and well, and to get energy for work and play.
2. Food is made up of different nutrients needed for growth and health.
   * All nutrients needed by the body are available through food.
   * Many kinds and combinations of food can lead to a well-balanced diet.
   * No food, by itself, has all the nutrients needed for full growth and health.
   * Each nutrient has specific uses in the body.
   * Most nutrients do their best work in the body when teamed with other nutrients.
3. All persons, throughout life, have need for the same nutrients, but in varying amounts.
   * The amounts of nutrients needed are influenced by age, sex, size, activity, and state of health.
   * Suggestions for the kinds and amounts of food needed are made by trained scientists.
4. The way food is handled influences the amount of nutrients in food, its safety, appearance, and taste.
   * Handling means everything that happens to food while it is being grown, processed, stored, and prepared for eating.

USING THE NUTRITION CONCEPTS WITH NURSES

JOYCE MYERS, *Nutrition Consultant, Northeastern Branch Office, Indiana State Board of Health, Indianapolis, Ind.*

I would like to briefly discuss with you the combined efforts of three generalized consultants who used the concepts in working with Indiana nurses.

The nurses with whom we worked came from industrialized and rural areas, as well as small towns. The cultural background of the families with whom the nurses worked varied with the section of the State in which they lived. For instance, the families from isolated communities in the rolling hills of southern Indiana have food patterns similar to our southern neighbors, while those in industrialized northern areas are similar to the country of their origin as many are first-generation Americans. Other families have typical Hoosier food habits built around meat and potatoes.

Our staff proposed to test the usefulness of the nutrition concepts in the planning of inservice education meetings for nurses. We wanted to know whether the concepts were useful in planning presentations and materials, in structuring discussions, and in counseling individual nurses.

To measure our objectives, each consultant kept a dossier of the uses she made of the concepts. Narratives were written to cover office activities, field activities, and individual conferences. A log was maintained of the feedback from the nurses. The log covered entries from January through August. Although this was a short period, work with the nurses is continuing so we are collecting more information.

The log contained, in addition to the feedback from the nurses, the nutritionist's own "at random" impressions and opinions of the usefulness of the concepts.

The concepts were used in planning meetings for the following:

6 sessions with the Visiting Nurse Service or Visiting Nurse Association;
2 sessions with the county public health nurses;
1 session with the school nurses, and
4 sessions with combined school and public health nurses.

Consultation was provided 19 staff members of the Visiting Nurse Association, 7 school nurses, and 6 public health nurses.

Perhaps it would be more meaningful if before discussing the use of the concepts we clarify our interpretation of inservice education and consultation.

We define consultation as a deliberation of two or more persons on the same matter. It might be given to an individual or to a group.

Inservice education differs from this in that it is characterized by a preconceived plan and involves the imparting of knowledge in a formalized and organized fashion.

To discuss the use of the concepts, I will use my own programs with nurses:

Five inservice education programs were planned and presented to the Visiting Nurse Service. The content of these classes was based on needs indicated by a pretest and on topics requested by the nurses. The overall goal of these classes was to provide basic nutrition information and to help nurses see ways of applying this information in their home visits.

The concepts were not taught per se, but basic information was presented which would help to build the overall thought as suggested by each concept. Each class had one or more objective. As an example, the objective of one class was to convey the general thought to the nurses that food is important to us, that we do eat to live, to grow, to keep healthy and well, and to get energy for work and play which is concept No. 1 and No. 2; that food is made up of different nutrients needed for growth and health.

To explain in more detail the use of concepts No. 1 and No. 2, nutrition information and learning experiences were planned to present pertinent information regarding the importance of food to the body, and to show that a varied diet is more likely to include the necessary nutrients for physical well-being. A diagram presentation of the digestion of food and its breakdown into nutrients was simply presented, using individual foods ordinarily included in a family breakfast and lunch.

Foods were classified as being generally carbohydrates, proteins, or fats. The National Dairy Council Food Models were used as a visual aid to assist in the classification of foods. The discussion was concerned with the body's need for a variety of foods to supply the nutrients necessary for energy and growth. Many kinds and combinations of foods were planned to show that all could lead to an adequate diet.

Two meetings dealt with review and a continuation of the influence of food preparation and storage on the nutrients in foods. This incorporates concept No. 4 which is the way food is handled influences the amount of nutrients in food, its safety, appearance, and taste. Concept No. 2 was also used in the development of these discussions.

Two meetings covered the foods needed during various stages in the life cycle and incorporated concept No. 3. Family members included the pregnant mother, her baby, the preschooler, the school-aged child, the teenager, the adult, and the older adult. The nutrient needs of family members were discussed using the NRC allowances as a starting point.

The food sources of these nutrients were then discussed, using the four food groups as a guide to be used in working with families. Menus were planned for a family showing that family members need similar kinds of foods, but in varying amounts.

Orientation of New Nurses

Another program which is continuous these days, is the orientation of new public health nurses. The concepts have been helpful in discussing pertinent nutrition information and services. As an example, it was suggested that the direct assistance given to health facilities by the nutritionist was an important community service, in that food was most important to the well-being of the residents in the facility, that the checking of menus and food service facilities was a means of insuring good methods of food preparation and satisfactory food storage as well as planning acceptable meals to meet the food needs of all residents.

In discussing various resource materials available for different age groups, concept No. 3, which states that all persons throughout life have need for the same nutrients but in varying amounts, was incorporated into the discussion.

Individual Consultation

Consultation to nurses has provided an opportunity for using the concepts in many ways. It is impossible to talk about family nutrition and not include parts, or all, of these basic concepts.

For example, assistance was given a nurse in counseling low-income families. Simple menus were planned with the nurse, showing her how to make use of commodity foods in daily meals. Meals were also planned to use the inexpensive foods from each of the four food groups. Nutrients for these menus were calculated by the nurse to show there are many ways to meet food needs.

One of the more interesting special diet problems encountered was the planning of menus with a staff member of the Visiting Nurse Service for an elderly male ulcer patient who needed adequate meals composed of convenience foods. His physical condition was poor and it was necessary for him to prepare his own food. This discussion covered such points as the inclusion of a variety of foods to insure the patient obtaining the needed nutrients; the inclusion of food which would promote the patient's well-being and not aggravate his physical condition; the provision of foods easily stored, prepared, and purchased; the provision of foods necessary for his age and activity; and, perhaps more important, foods pleasing to the patient.

Feedback of Nurses

There has been a limited amount of feedback from nurses. It takes a long time to obtain this type of return information. This is not to say we have not had some encouraging returns for our efforts. For instance, nurses have told us they now can better explain to their patients the importance

of food. Several have stated their surprise at how simple and easy, but necessary, it is to plan family meals. Some feel they now understand the whys of nutrition themselves and hope to be more effective in meeting the needs of the families with whom they work. They found the classes were a help in meeting their own food needs and that nutrition had become a personal thing.

Evaluation of Concepts

Finally, I would like to mention our staff evalution of the concepts. On first thought we were somewhat confused as to what the concepts were and how we could use them. After some discussion, it became apparent that these were generalizations we have often used, but were simply and briefly stated.

Once we really understood that these were basic understandings needed by man for choosing his diet, we found them useful in planning and evaluating work.

When planning an inservice lesson for nurses, the concepts were a starting point for determining the objective of the lesson plan. They served as a guide in the development of content and learning experiences for these classes. After each lesson plan was completed, it was evaluated to determine if the basic idea of each concept had been included in the material to be presented.

While consultation is an unstructured approach, the concepts were helpful in organizing our thoughts so that we might help the nurses to better understand nutrition information. They were a help in keeping the discussion within limits and served as a means of self-discipline.

These four basic ideas about nutrition have become so much a part of us that they are being used in our day-to-day programs. They are continuing to serve as a guide and measuring device for the preparation and presentation of nutrition materials and information.

The concepts were used in the development of a curriculum guide for use in teaching nutrition in Indiana schools. They also provided guidance in the preparation of inservice meetings for teachers.

I would like to make one last observation concerning my work with the nurses. I have found that with more nutrition information the nurses gained increased confidence and assurance in using nutrition facts and are accepting more responsibility for helping or obtaining help for families with nutrition problems. These same families may have been overlooked before. This new level of nutrition knowledge has also served as an impetus in sparking interest in their own food needs and in that of their family.

THE COOPERATIVE APPROACH TO TEACHING NUTRITION TO HOMEMAKERS IN THREE COUNTIES WHERE THE FOOD STAMP PLAN IS AVAILABLE

NAZZA NOBLE, *Extension Nutritionist, University of Tennessee, Knoxville, Tenn.*

At the present time, there are 40 counties participating in the Food Stamp Program in Tennessee. In an effort to learn more about the recipients of this program, an educational project was developed and carried out by representatives of the University of Tennessee Agricultural Extension Service, and The Colleges of Agriculture and Home Economics, and the Food Stamp Program.

The purpose of the study was to determine the effectiveness of selected methods of teaching basic nutrition concepts on food-buying habits of families utilizing food stamps in three East Tennessee counties.

In order to test various mass methods, the educational information was given by radio in one county, direct mail in another, and a combination of the two methods in a third. The sample was selected from the 2,438 families in the three counties receiving stamps at the time of the study. Fifty families were selected at random from the list of families supplied by the program administrator for this purpose.

Information for the study was obtained through two personal interviews using detailed questionnaires. The first questionnaire was designed to give the general characteristics of the sample families, their main channels of communication, and kinds or variety of foods they purchased. The second questionnaire was designed to determine changes in food-buying practices. Usable questionnaires in both interviews were obtained from 132 respondents.

Preparation and Distribution of Lessons

A series of six illustrated lessons was prepared and mailed to the county group receiving direct mail. Information from the lessons was taped and used in the designated radio counties. The time schedule included one lesson per week in each county. Since 90 percent of the sample had less than an eighth grade education, and of these 37 percent were under the fifth grade reading level, the series was written at the lowest level of readability.

Usefulness of Nutrition Concepts in Lesson Design

The concepts have been very valuable in helping to organize information into a meaningful whole. Teaching materials prepared in the past were more in the form of separate lessons, each kept within the context of one central theme or group of ideas. The six lessons in this series were designed to be used consecutively and not as isolated lessons. For example, lesson six would have very little meaning without knowledge acquired through the other five. The whole meal was brought together in lesson six after studying the various parts separately.

Each concept was incorporated in each lesson by repeating the ideas of the relationship of food to health: That there are many choices in each food group; that individuals need the same nutrients but in varying amounts; and that food must be handled and stored correctly to retain its food value. To have these ideas, in a simply stated form, before one at all times is an invaluable asset in developing nutrition programs and literature.

The concepts have also been valuable in showing how important ideas can be strengthened by repeating the same idea in different situations. For example, developing the idea of what constitutes a serving of various foods to give some conception of the amount of food needed for a meal.

The concepts put the various aspects of nutrition into a logical perspective. Nutritionists have agreed for many years on the usefulness of the four food groups. These have too often been used as "the lessons in nutrition." The concepts strengthen the four food groups by giving a reason for using them. As educators use the concepts to guide them, the information presented will more nearly represent the true scope of basic nutrition.

Usefulness of Nutrition Concepts in Changing Food-Buying Practices

The second survey yielded very little evidence of change in food-buying practices. This can be explained largely in terms of (1) the educational level of the group studied, (2) that the effort was made through mass media, (3) that the period of time over which the educational information was given was short, and (4) that food habits are difficult to change. Some specific cases, however, showed evidence of being influenced by the teaching effort.

Fifty percent of the respondents heard none of the radio programs; 39 percent heard some but could not remember how many; and only 11 percent heard all of them. The programs were 10 minutes long and a relatively large number of ideas were included in each. The second survey showed a very slight response to this effort.

There was more encouraging response from those reached by direct mail. The fact that 60 percent still had the lessons, that 36 percent had tried some of the recipes, and that 56 percent said that they planned to use the recipes provided evidence that they had been affected by the message.

The combined methods showed a little more response from the audience than either method alone. However, this response was difficult to delineate and did not provide specific proof of acceptance on the part of the respondents.

NEW OPPORTUNITIES FOR COMMUNICATION

EVELYN B. SPINDLER, *Ph. D., Nutritionist, Federal Extension Service, U.S. Department of Agriculture, Washington, D.C.*

New avenues for teaching nutrition are constantly being explored by the county home economist and specialists of the Cooperative Extension Service.

We have moved from emphasizing the method demonstration, from which the name "home demonstration agent" was derived, to using many methods and techniques. Experience has taught us that we must carefully adapt the method and the materials to our many audiences if we hope to communicate nutrition education.

One of the exciting new approaches we are exploring is the use of program aides. In an attempt to improve the diets of the hard-to-reach poor, we are training nonprofessional aides to go into the homes and teach the women better ways of feeding their families. By employing these program aides, we can extend the services of the professional home economist so she can reach many more of the poor.

If program aides are to achieve potential usefulness, they must be properly trained. First we must teach them how to work with the disadvantaged. If the aides come from a middle-class background, we may need to prepare them for cultural shock. How does an aide start in a home that is filthy, where there are several small hungry children, and a young mother too tired, harried, and discouraged to attempt to learn?

If the aide has not been prepared, she will beat a hasty retreat to the welfare office and try to get food and money, or other material help. While some of this may be desirable, the aide must keep in mind that her objective is to try to educate and to bring hope and encouragement. Some believe the indigenous aide suffers less of a shock and can better communicate with the poor. Actually, we do not have enough experience with the use of aides to know what characteristics are required for

effective results. This is some of the information we hope to get in our Alabama project, where we are testing use of paid aides in five counties.

After the aides have been indoctrinated in how to work with the people, they are taught subject matter, one lesson at a time, in some phase of homemaking. Often it is good to start with lessons on food since feeding the family is almost always a problem with low-income homemakers.

The Extension Service has worked out a series of lessons for a home economist to use in training aides. The first lesson deals with what food means to people. It often comes as a surprise to the aides to find that many people do not sit around at a table to eat the conventional three meals a day. In this lesson we try to make aides aware of some of the factors which influence the food habits of families, such as the amount of money they can spend for food, their nationality background, the part of the country in which they live, their religion, the way mothers cook and serve food, and how much they know about nutrition, to mention a few. After this lesson the aide is expected to make home visits, and by observation and talking with the mothers learn something about the eating habits of the families in her area.

In about a week's time the aides return for the second lesson. They discuss with the trainer home economist their experiences and observations, and she teaches them the next lesson, which is about breads and cereals. This topic was chosen next because most low-income families do consume large amounts of cereal foods. If the families are in an area receiving donated foods, emphasis is given to the foods available through this program.

Four of the lessons, of which the lesson on breads and cereals is an example, are based on the four food groups. The sixth lesson is planning meals based on the Daily Food Guide. Obviously this is only a beginning of the information that the aide will need to help the poor homemakers to better feed their families. The series of training meetings does help the home economist to get the program started and gives her ideas as to how to proceed.

In an attempt to better communicate with the audience for whom it is intended, the materials used in this program are written at various reading levels. The guide for the home economist is written for professionals. The instructions to the aide are written at about a sixth grade reading level—assuming that at least some of the aides will be indigenous. The leaflets for use with the families are written at an even lower reading level. The recipes included in these leaflets are written as simply as possible, and were developed to use simple ingredients and equipment.

The training guides for the home economist and aides were developed by the Federal Extension Service. The leaflets were produced by Consumer and Marketing Service and include recipes developed by Agricultural Research Service. The packet of material will be available through the Superintendent of Documents by late spring.

Although communicating with an audience through paid program aides is relatively new with the Extension Service and is still limited, for many years we have been extending our program by means of volunteer local leaders in both the 4–H and the women's programs.

Let's look at some other new opportunities being used by the Extension Service to get the nutrition story to special audiences. One of the groups that most needs information on feeding their families is the young homemakers. This is a very difficult audience to reach for many reasons.

In an informal study, the speaker interviewed over 300 young homemakers throughout the country. The objective of the study was to determine attitudes and practices of this group in regard to feeding their families. Also to find out how they would like to receive information on nutrition. The young women interviewed were those that the Extension Service was not reaching by means of meetings.

The great majority of them felt they would get the most from meetings where they could ask questions and get direct answers from an authority and also discuss their problems with other young homemakers. They need to get away from the children for a while and talk with other adults.

When asked if a series given over television would be as helpful, they replied that they did not have time to sit and concentrate on television during the day—there were far too many interuptions or they used it to amuse the children—and they could not get direct answers to their questions. Some pointed out that with television we might reach a larger number of young homemakers and especially those who would not attend meetings, but they felt for learning in depth the meeting was the best method. Perhaps as we have more experience with educational television, it can be used more effectively with this audience.

When asked about receiving information by radio, most replied they used it for background noise or music, but they didn't listen carefully to it. It is good for short messages.

Newspapers are a means of reaching some, but a surprising number of young women did not read newspapers. This was not always related to their economic or educational level. For those who do read newspapers, the homemaking articles were one of the ways they use to get information. However, most felt this was a better way to get incidental information than to study a subject in depth. They also complained they could not get immediate answers to their questions.

As a result of this study, a series of six lessons called "Food for Young Families" was developed. In a pilot project to test these materials, approximately 250 county Extension home economists in about 20 States gave the series of lessons to young homemakers.

The material was evaluated, revised, and reprinted, and it is now available for sale through the Superintendent of Documents. It has a guide for use of the home economist written at a professional level and handout leaflets for the homemakers written at high school reading level. In the last 18 months, approximately 1,500 groups with about 27,000 young homemakers have participated in this series.

Since many of the agents used this series with homemakers of a lower educational level, one of the questions in the evaluation was, "Would you like to have these leaflets rewritten at a lower reading level?" Generally the answer was "No," because these people are not readers even if they can read the material. What the home economists did want was more colorful and more interesting visuals with which to tell the story. Since television has demonstrated the use of dramatic visuals in presenting messages, we can no longer get by without effective visuals especially if we hope to interest those that are not readers.

"Food for the Thrifty Family" is designed to train aides to work with poor families directly or in small groups, while "Food for the Young Families" is planned for the professional to use with groups of young homemakers of any income level.

These are two examples of new programs in which the Extension Service is trying to adjust the methods, and techniques, and materials in order to better communicate with different audiences. Other programs also have been designed to reach such special audiences as the teenagers.

Materials may be ordered from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

Prices listed below are for 10 copies unless stated otherwise:

Food for Thrifty Families
- Suggestions for Trainer Agent, PA–743 ($1.40).
- Guides for Program Aides:
  - What Food Means to People, PA–744 (15 cents).
  - Breads and Cereals, Golden Nuggets, PA–745 (15 cents).
  - Milk, White Magic, PA–746 (15 cents).
  - Four Food Groups in Meals, Treasure Chest, PA–747 (15 cents).
  - Meat Group, Solid Treasures, PA–748 (15 cents).
  - Fruits and Vegetables, Bright Jewels, PA–749 (15 cents).
  - CS&MS Leaflets, Nos. 23–43 ($1.00 for set).

Food for the Young Families, a series of Nutrition Lessons. Prices given are for a single copy.
- Guide for Extension Home Economists, PA–700 (15 cents).
- Key Nutrients, PA–691 (5 cents).
- Principles of Cookery, PA–692 (5 cents).
- Feeding Young Children, PA–693 (5 cents).
- Eat to Live Better, PA–694 (5 cents).
- Meal Planning Made Easy, PA–695 (5 cents).
- Selecting and Buying Food, PA–696 (5 cents).

NEW OPPORTUNITIES FOR COMMUNICATING FACTS ON NUTRITION

HELEN M. HILLE, *Institutional Nutrition Consultant, Nutrition Section, Children's Bureau, Welfare Administration, U.S. Department of Health, Education, and Welfare, Washington, D.C.*

Many significant and challenging opportunities for improving the communication of nutrition information are provided through new and expanding programs of the Children's Bureau. Since it is not possible to cover all of these programs in the time allotted, I have selected only three to discuss with you this morning—The Comprehensive Maternity and Infant Care Projects, The Projects for Comprehensive Health Services for Children and Youth, and Day Care Programs for Young Children.

The first of these, The Comprehensive Maternity and Infant Care Projects, were developed as a result of the Maternal and Child Health and Mental Retardation Planning Amendments of 1963, which amended the Social Security Act to assist States and communities in preventing and combating mental retardation. This legislation included an authorization for grants to State or local health agencies for projects to provide prenatal, delivery, and postnatal care for mothers and their infants regarded as facing special health hazards and unlikely otherwise to receive such care. One of the goals of the projects developed under this legislation is to give children a healthy start in life. These maternity and infant care projects were the first step in the development of a new comprehensive program of medical care for mothers and children.

The second step was the 1965 amendments to the Social Security Act which provided for the extension of maternal and child health, crippled children's and child welfare services, as well as new authorizations. The most significant of these authorizes a new program of special project grants to provide comprehensive health care and services for children of school age and for preschool children, particularly in areas with concentrations of low-income families. These project grants support comprehensive medical care programs that provide screening, diagnosis, preventive services, treatment, correction of defects, and aftercare, both medical and dental. Treatment, correction of

defects, and aftercare are limited to children in low-income families.

The projects developed under the 1963 amendments and under the 1965 amendments take into account all of the social and health factors related to the health and well-being of mothers and children. The nucleus of these projects is a multidisciplinary team including physicians, nurses, social workers, and nutritionists. Other disciplines, such as occupational therapists, speech therapists, and physical therapists, are also included in many of the projects.

Approved, as of January 1967, were 55 Projects for Maternity and Infant Care in 34 States and Territories and 27 Projects for Comprehensive Health Services for Children and Youth in 17 States and Territories. In these 82 projects, there are almost 200 positions budgeted for nutrition personnel.

Recent legislation has also enabled States to improve and expand existing day-care services. Unique opportunities are provided in these daytime programs, not only to reach children during the formative years, but also to reach their parents and to improve nutrition for the child's entire family.

The three programs, Maternity and Infant Care Projects, Comprehensive Health Services for Children and Youth, and the Day Care Programs provided new avenues for communicating nutrition information and of providing nutrition services to larger numbers of mothers and children. Opportunities afforded by these programs include:

—provision for more nutrition services to mothers and children.
—closer communication and coordination of nutrition services between hospitals, projects, and other community agencies.
—emphases in these new health programs in the collaborative approach through the addition of other disciplines to the health team and the use of auxiliary personnel.
—experimentation with the development and use of different communication media.
—an expansion of nutrition consultation and training for a variety of health and welfare personnel.

More Nutrition Services for Mothers and Children

Additional nutritionists and dietitions are bringing about improvement in food habits of project families by providing direct counseling on normal nutrition and modified diets to patients and their families in clinics, at home, and in hospitals, conducting demonstrations on feeding and care of children and their families, meeting with parent and other community groups to increase their knowledge of maternal and child nutrition, and working out cooperative arrangements with departments of welfare and other community agencies to obtain needed foods for families without adequate resources.

Daytime programs for children also benefit from the services of nutrition personnel. For example, to improve nutrition for day-care children and their families, nutritionists develop educational programs directed to professional and other day-care staff as well as to parents of children; assist in development of standard; provide nutrition consultation; and participate in training of day care and licensing staff.

Other professional public health and welfare workers, such as physicians, nurses, social workers, dentists, and others, also include nutrition counseling as a part of the counseling they provide to children and their families. For example, the nutritionists work through the public health nurses who in turn lend support to nutrition counseling in visits to the patient's home. Nurses also include nutrition in classes such as those for expectant parents, using the guidelines and visual aids selected or prepared by the nutritionist.

Coordination Among Hospitals, Projects, and Other Community Agencies

Any one project may involve several hospitals in providing care for project patients. Close communication among the hospital dietary staff, project staff, and other community nutritionists to assure continuity of care between the hospital and the home and to make the best possible use of all resources is encouraged.

For example, in one project the nutrition component was developed jointly by the nutritionists with the city health department, the dietitian in a participating hospital, the nutrition consultant with the State health department and the Children's Bureau Regional Nutrition Consultant. A teaching dietitian was added to the staff of one hospital participating in the project. This dietition will provide nutrition services to maternity and pediatric patients and coordinate services with nutritionists on the staff of the local health department and dietary staff of other hospitals participating in the project.

New Approaches to Public Health Services

New approaches to providing services include the use of a wider variety of professional workers, some of which are new in public health programs. For example, home economists are being added to the staff of special projects to provide information and counseling in the area of home economics to other members of the staff and guidance to project patients and their families.

For families to profit most from the health services provided in the projects, they often need help in overcoming problems related to home management and family living. For example, many ex-

pectant mothers with several children and a limited income need help in learning how to manage limited funds if they and their families are to receive maximum benefit from nutrition counseling received at the clinic.

Efforts of home economists to help families raise their level of living and make more efficient use of their homemaking abilities and resources include guidance in home management practices, such as buymanship, storage and care of food, meal planning and preparation, use of commodity foods or economical food buying with Food Stamps, and counseling in other areas of home living that affect the health and welfare of the patient and the attainment of health goals for the family.

New approaches to providing public health services also include the utilization of personnel at varying levels. For example, the Maternity and Infant Care and Children and Youth Projects have added aides to assist the professional staff, including the home economist and the nutritionist. These workers are known by a variety of titles, such as home management aides, neighborhood aides, home maintenance aides, home economics aides, and nutrition aides.

One hospital-based Maternity and Infant Care Project employs nutrition aides to assist the nutritionists and home economists. In addition to services provided in the hospital, this project also provides services in Neighborhood Centers established by the Office of Economic Opportunity. These centers are located in poverty areas which coincide with the projects' target areas and serve as an extension of the multidisciplinary services of the hospital where the project is based.

The project staff consider the aides very effective members of the team. They make home visits to encourage patients to participate in center activities; assist the home economist in carrying out activities at the centers, and in developing and planning educational materials and projects.

Activities in the centers are designed to allow maximum participation by the patients and include meal planning, cooking, sewing, economical selection and use of food, child care, and other home economics related areas.

The aides live in the area where the center is located and have the advantage of knowing the people and the community. This knowledge not only makes them better able to communicate with patients, but they also help other project staff understand ways in which the program will be accepted by the people and the community. One nutrition aide in this project is the mother of five children and has been on Aid to Families With Dependent Children (AFDC). She has worked out a good plan for her own participation in the Food Stamp Program and shares this plan with others. Her understanding and ability to communicate with project patients and their families facilitates an exchange of information.

In another project the aides accompany patients to the grocery store to teach them how to make economical selections of food. They also teach mothers to improve homemaking abilities with supplies and equipment available in the home situation.

The effectiveness of the aides in these programs is enhanced by good in-service training and continual guidance and counsel of the home economist, the nutritionist, and other multidiscipline workers on the project team.

Communication Media

Nutritionists work closely with other members of the team through a variety of media to encourage families in an area to utilize project services. For example, the team members and two patients from a Maternity and Infant Care Project in a low-income neighborhood participated in a TV show which emphasized the importance of early prenatal care, explained the services of the project, and encouraged expectant mothers to avail themselves of this opportunity.

In one hospital-centered project, a maternity nurse, whose chief function is parent education, is experimenting in the use of closed-circuit television to get her message through to expectant and new mothers and to teach other members of the staff. In a series of video tapes, which she and the project's codirector made themselves, simple demonstrations include information about nutrition and preparation of the baby's formula.

In other projects, the staff has developed a color-coded picture message on the four food groups directed to non-English-speaking prenatal patients, and are working on the development of films and film strips for teaching expectant mothers as well as maternal and child health workers.

Nutrition Training of Health and Welfare Workers

Educational programs are being developed and conducted by nutritionists for other disciplines. For example, child welfare workers responsible for licensing and consultation on day-care services are being trained and equipped with tools to provide nutrition guidance to day-care staff. To extend services to more children through these workers, simplified publications and kits of materials relating to nutrition for the preschool child have been developed. In one State, a set of illustrative materials was reproduced on transparencies for use in workshops and other classes. The materials are being used by day-care licensing workers, with lay groups, by vocational schools

that are training high school students to work in day-care centers, and by nurses on home visits, at well-child conferences and with Head Start programs.

In one Maternity and Infant Care Project, the nutritionist met with a group of public welfare caseworkers to discuss the support such workers might provide in assisting to improve nutrition of project families and also participated in a course for nurses on care of the premature.

Summary

In summary, new and expanding public health programs are providing significant opportunities to reach more mothers, children, and families with nutrition information and counseling. To make maximum and effective use of these opportunities, nutrition workers need to be receptive to new ideas, be willing to experiment and use innovative approaches, and build in provisions for ongoing evaluation.

MEDICARE

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Each of you is aware that Medicare, Title XVIII of the Social Security Amendments of 1965, is a law of the land. It represents a major thrust in providing comprehensive quality health care services to those 65 years of age and over.

This is one of the newest opportunities of the Public Health Service for communicating nutrition information. All health aspects of Medicare are being implemented by the Public Health Service and State and Territorial agencies designated by the State and Territorial Governors. These designated agencies are primarily the official State Health Departments.

The impact of the legislation will continue to—

1—encourage communities to review and evaluate health resources—hospitals, nursing homes, home-care programs—for adequacy to meet the health-care needs of the elderly and to identify deficiencies;

2—provide unlimited opportunities to health workers—physicians, nurses, dietitians, nutritionists, and other professional and nonprofessional—to make available to patients an array of health services needed;

3—provide communities financial support through the reasonable cost reimbursement mechanism to expand and improve their resources for comprehensive health care; and

4—achieve coordination and continuity of care to patients. An integral part of quality health care is nutrition and dietary services. These services are required in the hospitals and Extended Care Facilities (ECF) participating as providers of services under Medicare. Nutrition services are recognized as a needed service in the certified home health agencies.

Under Medicare about 7,000 hospitals have been certified to provide care and more than 3,000 ECF's have been certified. In one Midwestern State, there has been successful effort to provide hospitals and skilled-nursing homes with regular service from professional dietitians. At the present time only 19 of the 165 hospitals in the State do not receive some regular service from a professional dietitian. Forty of the hospitals employ one or more full-time dietitians. One hundred dietitians are employed either part-time or working on a regular consultant basis with 106 hospitals, 11 of which have certified ECF wings, and 52 nursing homes. Many of these dietitians were not professionally employed previous to Medicare so a valuable untapped resource has been used to get a job done.

In addition to the extensive effort to find and employ dietitians within the past 2 years, 150 food service workers in hospitals and nursing homes have completed a home study course on nutrition and food service, 131 food service supervisors have completed the university short course, and 25 food service supervisors have completed the American Dietetic Association Correspondence Course. This is an example of how doors have been opened to reach people with sound nutrition and food management information.

Patients have always moved from hospital to home to hospital to nursing home. With Medicare this free movement and transfer of patients will continue with the goal to provide comprehensive care, a pattern of care described by the old cliche "the right patient, in the right bed, at the right time."

To achieve proper utilization of comprehensive services during hospitalization, certified hospitals are required to have a utilization review plan. This plan offers all health professionals the opportunity to provide their services to the maximum as well as to identify gaps in services needed by the patients. Through the utilization review process, dietitians and nutritionists will find new opportunities to extend the benefits of sound nutritional planning.

Transfer agreements between the ECF and one or more hospitals is (another) requirement of Medicare. These agreements offer a valuable opportunity of increased continuity of patient care and closer working relationships between the staffs of the two facilities. The dietary consultant of the

ECF and the dietitian of the hospital through the relationship will see that the nutrition needs of the patient are met with greater consistency and less interruption. When a patient is transferred, the agreement can assure that the diet counseling performed in one facility will be continued in the next.

In 1961, there were less than 200 home health programs in the Nation. Under Medicare there are now more than 1,700 certified home health agencies whose responsibility it is to provide care services to patients in their homes. Patients cared for today in home health programs have illnesses which are acute as well as long term; they are in convalescent as well as in terminal phases; and they are moderately disabled as well as severely handicapped. Of the patients under care, between 30 or 40 percent are on some type of physician-prescribed therapeutic diet. Nutritionists and dietitians who work in home health programs on a regular basis, either part time or full time, give leadership to the nutrition aspect of the program and function as a member of the health team and work closely with the other professional staff members. On occasion the dietitian or the nutritionist goes into the patient's home by herself or with an agency staff member to see what the nutrition problem is and how it might be solved through the followup work of the nurse, home-health aide, or other staff member of the home health agency.

As a result of Medicare legislation, a rapidly expanding service of the Home Health Agency is rendered by the home health aide. With few exceptions every State in the Nation is using home health aides to provide personal care services to patients in their homes. These aides work under the supervision of a professional, usually a Public Health nurse or medical social worker. Before an aide is assigned to a patient, the aide must successfully complete a basic training course. This training includes normal nutrition and family food management. Basic nutrition concepts are used as a guide for this content. Through this supervised nonprofessional worker, nutrition services and nutrition information are provided in the home. Helping the aide to help the partient with his modified diet, is supplementary content that is given the aide as part of her on-the-job training after she is assigned to a patient whose care includes a therapeutic diet such as the diabetic or congestive heart-failure patient.

This brief discussion can only highlight some of the new and expanding opportunities Medicare affords us in reaching a large segment of the Nation's population with nutrition services and nutrition education.

NEW OPPORTUNITIES FOR COMMUNICATION—CONSUMER AND MARKETING SERVICE

BERTHA F. OLSEN, *Chief, Technical Services Branch, School Lunch Division, Consumer and Marketing Service, U.S. Department of Agriculture, Washington, D.C.*

The Consumer Food Programs of the Consumer and Marketing Service provide many new opportunities for communication both through new programs that have been initiated since the Nutrition Education Conference in 1962, and the rapidly expanding programs that were established prior to that time.

Consumer Food Programs include the National School Lunch and Special Milk and School Breakfast Programs; also, the Commodity Distribution and Food Stamp Programs. These programs touch directly on the lives of more than one of every five persons in the United States. The largest number benefiting are children in schools, child-care centers, Head Start programs, settlement houses, and summer camps. A considerable number of needy persons in family households and charitable institutions also benefit.

All Consumer Food Programs offer opportunities for communication by professional groups such as represented here. But I shall limit my remarks to new opportunities for communication.

The Child Nutrition Act signed on October 11, 1966, and funded on October 27, gives the Department of Agriculture authority to broaden school feeding to supplement the National School Lunch Act of 1946. The new act has several important features: (1) It provides for a 2-year pilot breakfast program in schools having a high percentage of pupils from low-income areas, and schools to which a substantial number of children travel long distances. We are proud to announce that this new program which started in January 1967 is providing breakfasts daily to 23,000 children in 178 schools and 14,000 of these children are receiving breakfast free. This pilot program will be limited in scope since only $2 million was made available this fiscal year. (2) Funds in the amount of $750,000 are also available to help needy schools buy basic equipment required to establish a feeding program or to improve or expand existing programs to benefit needy children. (3) Also, in line with the requirements of the new Act, schools participating in the Breakfast Program shall serve a combination of foods to meet the minimum nutritional requirements prescribed by the Secretary on the basis of tested nutritional research. Accordingly, a breakfast pattern was developed by Agricultural Research Service nutritionists

(Dr. Leverton and her staff). It provides for the following kinds and amounts of food:

> One-half pint whole fluid milk served as a beverage or on cereal or used in part for each purpose.
>
> A one-half cup serving of fruit or full-strength fruit or vegetable juice.
>
> One slice of whole-grain or enriched bread; or an equivalent serving of such items as corn-bread, biscuits, rolls, and muffins made of whole-grain cereals or enriched meal or flour; or three-fourths cup serving of whole-grain cereal or enriched or fortified cereal, or an equivalent quantity of any combination of any of these foods.

Breakfasts must contain these three components to be eligible for reimbursement.

However, to improve the nutrition of participating children and, in accordance with the recommendations of the Agricultural Research Service, the breakfast-program regulations specify that breakfasts shall also include as often as practicable protein-rich foods such as 1 egg, a 1-ounce serving (edible portion as served) of meat, poultry, or fish or cheese, or 2 tablespoons of peanut butter, or an equivalent quantity of any combination of any of these foods. Also additional amounts of food may be served, particularly breads and cereals, if children desire them. It is assumed that spreads for bread and sweeteners for cereals will also be served although they are not specified in the pattern.

This simple pattern is one which would encourage schools to participate in the program. It also offers a great deal of flexibility to varying situations and can be served with limited equipment and minimum labor.

We are currently working on a Menu Planning Guide for School Breakfasts using the three-component pattern and the optional protein-rich foods. We plan to suggest frequent use of foods that supply vitamin C and iron in the breakfast.

The Child Nutrition Act also extends the benefits of all feeding programs conducted and supervised by the Department of Agriculture to include children in preschool programs operated as part of the regular school system. The regulations for both the School Lunch and Special Milk Programs have been amended to incorporate this provision.

The Child Nutrition Act offers numerous opportunities to communicate with parents, teachers, school administrators, and children on the importance of breakfast to start the day right.

The National School Lunch Program is now in its 20th year of operation. Currently, Type A Lunches are served to 19 million children in over 71,000 public and nonprofit private schools. About 10 percent of the lunches are served free. I mention the element of need to point up the "special assistance" that is being provided to schools in low-income areas.

In a Department survey conducted several years ago, we found that there were 9 million children in schools that offered no food services. Also a large number of children attending schools with lunch programs could not afford to buy the lunches served. Schools could not finance free lunches for all the needy without raising lunch prices beyond the means of many paying children.

These findings resulted in an amendment to the National School Lunch Act that permitted a higher level of Federal cash reimbursement to schools in low-income areas. This section of the act was funded for the first time in fiscal year 1966 in the amount of $2 million. This appropriation came late in the fall leaving only 6 months to carry out the "special assistance" pilot program. Nevertheless, 866 schools participated in the pilot project to benefit more than 200,000 children. These schools received from 10 to 15 cents cash reimbursement and additional amounts of donated foods, making it possible to reduce lunch prices 10, 15, and 20 cents a lunch for all students. Participation jumped 20 to 30 percent. The free lunches served also increased to around 36 percent as compared with the 10 percent that are normally served free in the regular school lunch program.

This demonstration of need resulted in a $2 million appropriation for fiscal year 1967. Four hundred schools are benefiting. However, as was true in fiscal year 1966, the funds will not be adequate for the total school year. In an effort to reach more needy schools and to provide lunches for more needy children, the Department is requesting a $10 million appropriation for "special assistance" for fiscal year 1968. (The equipment funds provided in the Child Nutrition Act will help to further this effort.)

There is urgent need to tell this story to parents, teachers, and school administrators alike, as many schools in low-income areas are not yet benefiting from the special assistance provided under the National School Lunch Act.

Under the Food Stamp Program, local authorities request the program from the State welfare agency. This agency, in turn, transmits its request, with a list of priorities based on judgment as to the counties' need as well as their ability to assume certain local administrative responsibilities for the program, to the U.S. Department of Agriculture.

Families certified by welfare to participate in the Food Stamp Program exchange the amount of money they would normally spend for food for coupons worth more. These coupons in $0.50 and $2.00 denominations can be used like cash to purchase food in regular retail stores at regular retail prices. Participating retail stores treat the coupons just like their other store receipts. They can redeem them immediately at a commercial bank. The banks in turn are reimbursed by the Federal Reserve System.

The Department of Agriculture studied the Food Stamp Program carefully in 43 pilot areas throughout the country starting in May 1961.

For families who take part in the Food Stamp Program, the studies showed:

. . . The Program allowed them to buy more and better foods.

. . . About 80 percent of their increased expenditure went into buying more fruits and vegetables and livestock products.

. . . More than twice as many participating families had fully adequate diets than was true prior to the program.

For the economy of a State, the research showed:

. . . Retail food sales were increased by 8 percent after the inauguration of the program.

. . . The same number of Federal dollars, spent on the Food Stamp Program instead of family donations, increased the farmers' share of the family food expenditure by 15 percent.

. . . The overall economy of the participating areas benefited as the Food Stamp Program actually brought new dollars into the community.

Because of the impressive results of the 3-year testing period, Congress passed the Food Stamp Act of 1964. The act provides for the gradual expansion of the program into areas that want their low-income families to have a share in this Nation's rich food abundance.

An important feature of our food stamp work in each area is the organization of a working nutrition education committee like we have long promoted in the Food Donation Program. It brings together not only key personnel from such agencies as Extension, Public Health, and Home Economics Education, but radio, TV, and newspaper representatives to help design techniques for reaching low-income families with the word on the best use of their increased food purchasing power.

By the end of June 1967 the Food Stamp Program will be helping 2 million needy people in some 874 counties in 42 States and the District of Columbia. At the end of fiscal year 1966 about 1.2 million people in 324 areas were participating.

The Food Donation Program for low-income families will continue to reach into more cities and counties. The program is uniformly available to all units of local government except where the Food Stamp Program is in operation. At the end of January 1967 the Food Donation Program was providing food assistance to 3.6 million persons in some 1,600 counties and cities in 47 States and three Territorial possessions from Puerto Rico and the Virgin Islands in the Caribbean to the Trust Territories of the Pacific. Currently 14 different food items are available to help low-income families supplement their local food purchases.

Food demonstrations carried out at distribution and community centers, housing units, and mobile kitchens, have been most helpful to recipient homemakers in planning adequate diets for their families and in making maximum use of the donated foods. This work has been greatly expanded in many counties where Extension Service and Public Health nutritionists, home economics teachers, and other leaders have banded together to teach meal planning, food buying, and food demonstrations to volunteer homemakers and to Public Health nurses and welfare case workers who have direct contact with low-income families. The current effort to train program aides to work with families as mentioned by Dr. Spindler will help to improve this effort.

The Department has continued to promote the spread of the Food Donation Program into more counties in a number of ways. Recognizing the out-reaching possibilities offered by the Economic Opportunity Act, the Department requested OEO's cooperation in initiating new programs and expanding existing ones. To date, about 125 counties and cities in 10 States have operated family food donation programs with financial assistance from OEO. Most of these programs were also funded for nutrition and consumer education activities by the OEO.

To further promote the expansion of the Food Donation Program, the Department has enlisted the help of its Technical Action Panels. These panels are made up of representatives in the States of the several agencies of the Department maintaining State and local offices. The chairmen of the Technical Action Panels have asked their counterparts in nonparticipating counties to encourage local officials to consider the benefit to low-income families of a Food Donation Program. We anticipate some expansion of the program in the remaining counties that have not requested any type of food assistance program for their low-income families.

The Training Kit on Food for Thrifty Families referred to by Dr. Spindler was designed to benefit both the Food Stamp and the Commodity Distribution Programs. The 20 food-use flyers and the Daily Food Guide in the kit are interchangeable for both programs. The exception is in the flyers for three of the donated foods not available on the market—donated nonfat dry milk, rolled wheat, and bulgur. Free supplies of the flyers will be made available to agencies and individuals working directly with Food Stamp and Commodity Distribution families. The flyers will also be available for purchase from the Government Printing Office at a nominal charge. We anticipate that this material will be available for distribution in April. We hope the kit will be useful and effective in communicating with the families you serve and in supplementing the excellent materials that are being prepared in many States for educational work with low-income families.

NEW OPPORTUNITIES FOR COMMUNICATION—OFFICE OF EDUCATION

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The 88th and 89th Congresses enacted 24 major pieces of education legislation. These laws are channels through which dollars will go into our elementary schools, high schools, vocational schools, colleges, and universities. While sums appropriated are large, they do not in any way meet America's annual $40 billion education bill. They do serve as seed money and are intended to stimulate greater self-help by agencies, institutions, and organizations at every educational level. Many opportunities are provided which can extend and enrich nutrition education.

The legislation touches all aspects of education—preschool, elementary, and secondary education; teacher education; adult education; education for the world of work; helping people get back to work; new equipment and classrooms; financial aid to students; providing better libraries and librarians; aid for building and improving classrooms, laboratories, and other facilities; and educational television. Probably the most significant single piece of legislation passed in the 1963 to 1967 period is the Elementary and Secondary Education Act (ESEA) of 1965 which authorizes more than a billion dollars to strengthen and improve educational quality and educational opportunities in elementary and secondary schools. This is the first time substantial support has been given to such programs.

Title I of the Elementary and Secondary Education Act provides financial assistance to local educational agencies which have concentrations of low-income families. It enables them to expand and improve educational programs for educationally deprived children. In 1966, 2 percent of the money expended through Title I was for projects classified as food services. These funds were distributed to both public and nonpublic schools and were used for such items as food and other supplies, equipment, and salaries of personnel. Since the legislation encourages local school districts to use imagination and be creative in devising new approaches to meet the educational needs of deprived children, there is an opportunity for local systems to tailor programs that recognize the importance of nutrition education. Types of projects which might have a nutrition education component are preparation of instructional materials and special audiovisual aids; establishment of supplemental health and food services; school plant improvements—school laboratories, kitchens, and cafeterias; preschool training programs; and training of supervisory personnel and specialists for improvement of instruction.

The 1967 amendments to ESEA extended the definition of needy children to include neglected, delinquent, and foster children, Indian children in schools operated by the Bureau of Indian Affairs of the Department of Interior, and children of migratory workers.

Title III of the Elementary and Secondary Education Act (also known as the Adult Education Act of 1966) provides grants for supplementary educational centers and services. It is designed to support vitally needed services, to promote innovative and exemplary applications of new knowledge and to encourage communities throughout the Nation to find new solutions to their educational problems. Last year, for example, there were projects funded under this title which provided breakfast for children at school as a part of health services. Other services might be special instruction in science, languages, music, and the arts; counseling and guidance; and other health and social services.

The Adult Education Act of 1966 also provides funds to States to initiate programs of instruction for adults—age 18 or older—whose inability to read and write the English language keeps them from securing or retaining re-employment. Food and nutrition information along with other phases of home and family living, can be used as part of such adult basic education.

The Vocational Education Act of 1963 has had the greatest impact on home economics programs. The overall purposes of this act are to assist States in maintaining, extending, and improving present programs of vocational education; to develop new programs; and to provide part-time employment for youth who need financial aid to continue their vocational training. The legislation embodies the philosophy that all persons of all ages in all communities should have ready access to vocational education that can prepare them for employment in occupations not requiring a baccalaureate or higher degree.

This legislation presented a challenge to home economics educators. It placed a new focus on home economics programs for youth and adults. A new program dimension—preparation for wage-earning occupations involving knowledge and skills in home economics subjects—was added to homemaking education. The opportunities for nutrition education in programs that focus on learning home and family responsibilities are well known. Now programs that prepare students for occupations involving knowledge and skills in home economics subjects provide additional means of communicat-

ing nutrition information. In these wage-earning home economics education programs, the occupational area training the largest number of persons is food management, production, and service. Jobs in this area at both the supervisory and worker level are found in hotels, restaurants, schools, nursing homes, and homes for the aging—in fact, in any place where food is prepared and served.

Other occupations for which training is being given are homemaker-home health aide to work in homemaker service programs, various jobs performed in individual family homes, such as homemaker's assistant or family dinner specialist, and various jobs in the care and guidance of children, such as child-care aide or supervisor or assistant in a day-care center or nursery school.

These programs are available for various groups in different types of institutions including:

—students in high school preparing for entry-level occupations in many fields.

—persons in post-high school institutions (such as vocational and technical schools, junior colleges, and other higher institutions) being trained for occupations at a managerial or supervisory level and for many technical occupations, as well as for various entry-level and less skilled occupations.

—persons who want training or retraining to achieve stability, advance in employment, or change jobs.

In one way or another, there is a place in these programs for emphasis on nutrition information. The food service worker, the day-care center supervisor, the school lunch manager, the household assistant, all need nutrition as a part of their education for employment. It is my conviction that attention should be given to personal development and to management for effective living at home and on the job in all occupational training programs. This would certainly include the basics of nutrition. Research has been assigned an important role in much of the new legislation, and grants are available to support a variety of studies such as workshops, institutes, and developmental and pilot projects. If we are imaginative enough to grasp these opportunities, and if we use them well, many more people will be applying the basic concepts for nutrition education in their everyday life.

NEW OPPORTUNITIES FOR COMMUNICATION—OFFICE OF ECONOMIC OPPORTUNITY

SUE SADOW, *Nutrition Specialist, Project Head Start, Office of Economic Opportunity, Washington, D.C.*

Project Head Start is a nationwide program for young children of preschool age of poor families, designed to give them an opportunity to compete with more fortunate children on an equal basis. The climate of poverty in which these children live, sows the seeds for limited learning ability, limited verbal capacity, and poor motivation for learning, which commonly result in repeated failure and lack of self-confidence. Bringing together health, education, and welfare services in one program differentiates Head Start from all other programs for little children.

Does it offer new opportunities for communication? I have a story. The title is "I Ain't Gonna Eat Off the Floor No More." A child of five thus expressed himself with all the vehemence at his command, when he returned home to the shack clinging to the side of a mountain in one of the "hollers" in Kentucky, after a day at the Head Start Child Development Center that he had been attending for some weeks. In Head Start he had a chance to be in an environment where he was introduced to activities never before known to him. His encounter with his "new world" acquainted him with things he liked, enjoyed, and made him "feel good."

Did nutrition education come upon the scene, make a dent, and open the door so that a child could peek into a world of something better for him? The scene where it is all different from anything he has known or experienced? At mealtime he has sat comfortably at a table, his feet upon the floor. The table is the right height and comfortable to sit at. He has plenty of room so that he can feel relaxed. The delicious, well-cooked, tasty nutritious meal is before him. He has served himself, taken just what he wants. He has been motivated to try all foods, familiar and unfamiliar. He has eaten his fill. He has learned to use eating utensils, but he is not afraid to pick up food with his fingers, for the teacher knows he will soon learn to use his fork! The atmosphere is quiet, relaxed, and peaceful. The teacher's voice is soft, encouraging, and kindly. She never scolds, hurries, or punishes.

This child of poverty who knows only deprivation, crowding, dirt, returns home from Head Start and declares fearlessly, "I ain't gonna eat off the floor no more."

The center's method has been communicated to the child, and through his new awareness he attempts to communicate this to his parents. Is this an example of communication first to the child with follow through to parents?

HEAD START began with a summer program in 1965. The children were selected from poor families and were those who would be entering first grade in the fall. The period was brief . . . only 6 to 8 weeks. Because of the comprehensiveness of

the program, it was hoped that these children would be better prepared to take their places in school with their classmates who had not known similar deprivations. Altogether, at the end of summer 1965, 561,000 children had "graduated" from Head Start.

The success of the program, which awakened the Nation's poor families to the realization that something precious and important had been introduced into the lives of their children, also aroused the communities to the realization of their responsibility and opportunity to bring about a change in the lives of poor families.

Realization that half-day summer programs were much too brief to accomplish what needed to be done, the program was extended, in the fall of 1965 to include, in addition to the summer program, full year-round programs, both full day and half day, and the age requirement was lowered to include 3-year-olds.

In the President's State of the Union message on America's CHILDREN AND YOUTH, he devoted considerable space to the problems of Head Start. He reminded us of the "recent studies . . . of the 'early years as the critical years' . . . of the 5.5 million children under 6 years living in families too poor to feed them adequately . . . that the impact of Head Start would be far more beneficial if extended to the earlier years . . . that there is increasing evidence that the child's potential is shaped in infancy . . . that, early in life he may acquire scars that damage his later years at great cost to himself and society . . . that Head Start dramatically exposed the nutritional needs of poverty's children . . . that more than 1.5 million preschoolers were not getting the nourishing food vital to strong and healthy bodies." And he directed the Office of Economic Opportunity (OEO) to:

1. Strengthen the full-year program.
2. Enlarge the number of 3-year-olds.
3. Explore the effectiveness on even younger children.

The President stated that . . . "5.5 million children under 6 . . . live in families too poor to feed and house them adequately. . . ." To what extent, then, is Head Start meeting the need of these children? Below is the statistical picture on a national basis.

FULL YEAR (*year round*)—means 9- or 10- or 12-month programs.

(a) Full Day—may extend from 7 a.m. to 7 p.m. Ages—may be 9 months through school age (with after-school programs).

(b) Half Day—3 hours in the morning or 3 hours in the afternoon. Ages 3 to 5—preparation for kindergarten or first grade.

SUMMER PROGRAMS for half day (morning or afternoon) for 6 to 8 weeks. These are designed to help prepare children for entrance to kindergarten or first grade in the fall, when school begins. It is intended to give this opportunity, at least, to those children who were not fortunate enough to be included in the desirable full-year program. The full-year programs are not expanded due to (1) insufficient funds available to accommodate all, (2) lack of facilities, and (3) insufficient number of teachers. Seventy percent of summer programs use school facilities and teachers. This makes possible extending the number of children who can be enrolled.

STATISTICAL PICTURE . . . Fiscal 1967, ending June 30, 1967.

FULL YEAR (year round) PROGRAMS—

PERIOD:
- Average of 10 months.
- Hours . . . 2 types of programs.
  - (a) All day . . . 7 a.m. to 7 p.m.
  - (b) Half day . . . morning *or* afternoon session.

CHILDREN:
- Ages . . . 3, 4, 5 years.
- 206,000 children included.

GRANTS:
- $216,000,000 . . . Federal funds.
- $43,000,000 . . . non-Federal funds.
- Cost per child . . . approximately $1,200 per year.

STAFF:

Professional . . . (teachers)	14,566
Nonprofessional (neighborhood workers):	
Paid	21,849
Volunteers	13,880
Total	50,295

RATIO:
- 1 professional teacher per 15 children (approximately).
- 1 adult to each 4 children (approximately).

TRAINING: 8-week training programs are conducted in universities and colleges contracted to perform this training for teachers, teachers' aides, social workers, and family assistants.

SUMMER PROGRAMS.

PERIOD:
- Average 8 weeks.
- Half day . . . morning or afternoon sessions.

CHILDREN:
- Ages . . .
  - Prekindergarten . . . 4 years.
  - Preschool . . . 5 years.
- 500,000 children included.

GRANTS: 1,450 for U.S. (all States included).

FUNDS:
- $100,000,000 . . . Federal funds.
- $22,000,000 . . . non-Federal funds.
- Cost per child . . . approximately . . . $245 for 8 weeks.

STAFF:

Professional (teachers)	39,420
Nonprofessional (neighborhood workers):	
Paid	56,960
Volunteers	45,730
Total	142,110

RATIO:
- 1 professional teacher per 15 children (approximately).
- 1 adult to each 4 children (approximately).

TRAINING:
- 1-week course (40 hours) for 60,000 staff (teachers, aides, and others).

Head Start Communication

I. DELEGATE AGENCY or SPONSOR . . . applicant for grant for project, and must include in the program submitted, an acceptable nutrition and food component. Here is where all of you experts come in—for your expertise is needed to help accomplish this. Although children have the same needs, the programs vary unjustifiably, and there is no consistency on a national basis of what is provided to the children. For varying reasons, some children receive only a small glass of some juice and a cookie, while others enjoy a full program of breakfast for those who have not had breakfast at home, midmorning snack, and full hot lunch. Sponsors need counsel from you experts to set up a program which is in the best interest of the children. Communication of nutrition information starts with the Delegate Agency applying for funds.

II. HEAD START PERSONNEL . . . Administrators, directors, teachers, aides (paid neighborhood workers), cooks, cook's assistants, and volunteers are those dependent upon accurate nutrition information which will reach down to the children and their families.

III. PROVISION OF WRITTEN MATERIALS . . . Head Start nutrition materials are procurable for the asking—free. These materials are the result of an outstanding example of cooperation of a number of Government agencies working together as the NATIONAL HEAD START NUTRITION ADVISORY COMMITTEE. This cooperative effort—this pooling of knowledge—and experience is responsible for a set of materials that are related to the immediate problems of the poor, are practical, and are suitable for use all over the world in similar situations. The only need for adaptation in these materials relates to geographical and cultural differences. The Government agencies represented on the committee are: Children's Bureau, School Lunch Division, Federal Extension Service, Office of Education, Welfare Service, Public Health Service, and Agricultural Research Service. Pooling of expertise makes possible the kind of assistance HEAD START requires and communities benefit, while the experts are participating in meeting a community responsibility. When you return to your community, why not organize a Head Start Nutrition Advisory Committee for the benefit of your own local Head Start programs. We must all take the initiative and go forward offering our services to this crucial national program which involves the children of our country's poor and their families.

IV. COMMUNICATION THROUGH WRITTEN MATERIALS . . . in Head Start who must be reached?

TEACHERS: How will they know what to teach, or how to teach children, aides, volunteers, cooks?

CHILDREN: What types of communication are needed to make sure they are learning?

PARENTS: What methods ought to be considered for providing the information essential to them?

COOKS AND COOKS ASSISTANTS: Communication through food preparation.

VOLUNTEERS: Communication which will not only benefit the children but themselves, especially the teenagers.

How will Head Start accomplish all this? Serving food provides a direct method.

Breakfasts, snacks, lunches served in the classroom in a familiar atmosphere where the necessary controls can be established; where crowding and noise can be reduced to a minimum because the teacher is in control and has trained her aides; where children eat family style in small groups with an adult at each table eating with the children.

Nutrition information, communicated under the most favorable of circumstances will be remembered, and will retain its permanent place in the daily application of this knowledge, which will make the difference in life's total experience.

This method of communication places emphasis on the importance of—

(1) The social experience of eating together;

(2) The comfort of eating at a table, with all equipment the right size;

(3) Learning about new foods . . . taste, texture, colors, names; and

(4) Trips to markets and school gardens, and other activities such as handling foods and learning about sources of foods.

Example: The child, when asked where milk came from, replied, "From the supermarket . . . in cartons . . ."

Nutrition is involved in practically every activity in the center's daily program. Thus, a unique and valuable opportunity in communication is provided.

Parent participation provides a most important opportunity for communicating nutrition information which will benefit the entire family.

Communication through Head Start Training Programs will reach administrators, directors, teachers, aides, cooks and cook's assistants, and volunteers who will not only benefit on their own behalf but will influence the nutritional welfare of the children and their families.

In closing, let us be reminded that never before in our history of disseminating nutrition information has there been a greater opportunity for influencing the nutritional welfare of the Nation's little children than that made possible through Project Head Start. In this we have a regularly captive audience of nearly a million people. Head Start children and their families, teachers, neighborhood workers and their families, cooks and cook's assistants, and volunteers represent a group who will not only derive personal benefits, but will

also carry the message to others so that this far-reaching influence can never be measured.

Nutrition education is a requirement of Project Head Start, for the children and all the adults participating in the program. The extensiveness of this opportunity—this program that furnishes us not only with this captive audience, so that we do not need to search and organize any groups, but also more importantly with a receptive audience!

We have listened, at this conference, to discussions about the difficulties of changing food habits. In this group . . . our captive audience . . . this problem hardly exists. It is hardly necessary to change the food habits of children from 9 months to 5 years of age. But, it is necessary to teach them, to influence and help them to lay down good food habits that will stay with them throughout life. These good food habits and all they learn in the Head Start daily program reach into their homes, and extend benefits to the whole family.

The parent participation part of the Head Start Program, which is a requirement, provides an important captive audience. Perhaps here we are up against the difficulty of changing food habits. But, this special group, special because these parents are so thrilled with the opportunities and benefits they observe extended to their children, if properly approached, and innovative and imaginative programs developed to capture their attention, can be reached, and, indeed, can help you in planning programs on the subjects that they request and that affect their home life.

We are living in a period of great change. It is not necessary to outline these changes for you. It is perhaps not outside the scope of reality that soon our travel agencies will persuade us to take a trip to the moon, "to travel now and pay later." We know that achievement of our goals is a towering task requiring innovation in our approaches and institutions. Our methods must be consistent with the changing times. Is it not timely for all of us to take a frank look and careful inventory of our own current activities in our work to note what is outmoded and should be replaced with more current activities related to the times?

How much of what we are doing is related, realistically, to the current situation in our own communities? We've all been discussing the poor, their ills, their habits, and all that needs to be done. How many of us really gear our programs to help the poor out of their plight? Consider the knowledge and expertise of the group attending this conference, and think of the extent of the improvement of just the Head Start Program alone, of what could be accomplished by your participation in your communities.

Since we are devoting this session to new opportunities for communication, then I say to you in closing, when you return to your jobs, do take a careful inventory and have the courage to discard what can be dispensed with, and devote that time to the Head Start Program in your community! "A little child shall lead them" . . . Head Start is for little children who now have the opportunity to take our hand, to look up at us, to anticipate being led along the path of good nutrition.

Head Start offers a challenge to every single participant at this conference—a challenge you cannot afford to pass up. Just keep in mind that new innovative communication of our little Head Start boy—who said, "I ain't gonna eat off the floor no more."

HOW FAR HAVE WE COME?

HAZEL K. STIEBELING, *Ph. D., Formerly Deputy Administrator, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C.*

Your discussions of the past few days have reflected a number of concerns about today's nutrition education. You have said that effective communication is a common and basic problem, and several qualified speakers have addressed themselves to this topic. You have talked about your continuing need for perspective, as you seek to adopt present knowledge and concepts about nutrition to the needs of various population groups. You have shared experiences out of new opportunities to reach certain groups. And a thing that has impressed me especially is the wide spectrum of educational talent you represent, the tremendous diversity of audience you deal with, the great variety of communication media you use, and the tremendous impact you are having. Who could have envisioned a conference such as this 100 years, even 50 years, ago?

You know better than anyone where we are in nutrition education today. You know your problems and you have your big dreams. But the only way to *appreciate how far we have come*—and where we are—is to take a few moments and turn back the pages of history.

How far have we come? Certainly we have come a long way. We have come a long way because research has broadened our knowledge about nutrition. This knowledge undergirds our task. We have come a long way because we have available a plentiful and a varied supply of food. This is the material base for all nutrition. We have come a long way in understanding how to communicate—if we want positive responses from those we hope to teach. And we have come a long way in working together—in a mission we believe to be of supreme importance. Let's take a brief look

at some of the early landmarks of progress in nutrition in this country. I believe that you will realize that it is much earlier in the day of nutrition education than we sometimes think. The giant strides we have taken in the activity speedup of the last generation tend to make us misread our timeclocks.

How Far in Knowledge About Food and Nutrition?

Let's quickly look at how far we have come in our knowledge about nutrition. Before the beginnings of chemistry and physiology only some 200 years ago, the best food advice we had was based on general observations of the relation of food to well-being. Such observations when made by thoughtful and discerning persons are often very astute. But the *why* or the *how* was elusive.

By the latter part of the 19th century questions about the values of food were being explored in Europe with chemistry as a major tool. First proximate composition and calorie values were being determined, and then work on details about mineral and amino acid composition. Energy expenditures of man in various situations also were being investigated. Many Americans began to go to Germany, France, and England for postgraduate study in these fields.

The honor of being called the "father of nutrition" in this country has been given to W. O. Atwater. He studied in Germany in 1869—immediately after receiving his doctor's degree from Yale at the age of 25—and then again in 1887. Meanwhile, he was an inspiring teacher of agricultural and physiological chemistry at Wesleyan University in Middletown, Conn. In 1875, he became the first director of the first State-supported agricultural experiment station in this country (Connecticut); in 1888, he was made the first director of the Federal Office of Experiment Stations. It was in this capacity that Atwater was in good position to urge that the need for research in human nutrition be brought to the attention of the Congress of the United States.

When, in 1894, the Congress made the first appropriations of funds for human nutrition investigations to the Department of Agriculture, Atwater was appointed agent in charge. At once he initiated the policy of conducting the research not only at headquarters, but also in cooperation with universities, experiment stations, and other groups. Among his early collaborators was Henry Clapp Sherman, who in 1902 reported results of this work in a bulletin entitled *Experiments on the Metabolism of Nitrogen, Sulfur, and Phosphorus in the Human Organism.* Another of Atwater's assistants was Isabel Bevier, who in 1900 became the distinguished head of Household Science at the University of Illinois.

Probably no one of you present today had the pleasure of knowing Dr. Atwater personally, but some of you knew his daughter, Helen, who for many years was editor of the Journal of Home Economics. All of you have known Dr. Sherman and Miss Bevier personally or if you missed them by a few years—you have been touched by them through their writings and their students. The point I want to make is that we are close to the beginnings of nutrition research in this country.

In his autobiography, McCollum tells how in 1907 he was leafing through Maly's *Yearbook of Progress of Animal Chemistry* and came upon 13 abstracts that not only changed *his* life, but changed the history of nutritional science in this country. He found that 13 investigations had been reported between 1870 and 1906 showing that purified diets containing all the then-known nutritional elements did not support life for more than short periods. Something was missing! McCollum pondered this, and decided to try to find the missing nutrients. He proposed to work with diets that could be chemically identified and to feed the diets to small experimental animals whose whole life history could be observed over a period of 2 or 3 years. Despite administrative opposition, he established a rat colony for nutrition research at the University of Wisconsin in 1908—a historical first—hardly 60 years ago.

McCollum's results were so successful that the principle of using rats, mice, birds, and other small organisms as living test tubes spread everywhere, and revolutionized nutrition research. Work in many laboratories, using these biological methods in combination with chemistry, brought the identification of many vitamins, knowledge of the specific action of various amino acids, the particular functions of many inorganic substances including trace minerals, and the comparative effect over a lifetime and generations of diets that contained varying proportions of different foods and nutrients.

Thus, it took new methods of study to move from the knowledge of public health workers that diet was involved in rickets, scurvy, beriberi, and pellagra, or knowledge from animal science that some feed combinations were better than others, to the *what* and the *how* of "little things" in nutrition. Today, the use of conventional chemical methods and biological testing, together with sophisticated new methods involving modern physics, is providing ever more complete and quantitative knowledge of the nutritive values of food, the function of various nutrients, and the nutritional requirements of man.

Indeed, we have come a long way in our knowledge about nutrition and in a short time, as time is measured. But there is still much to learn about the relation of food to health and how to make the best use of our food supply for nutritional well-being. Hard at work on these problems are

our researchers, as are found in the National Institutes of Health, the Department of Agriculture, and in experiment stations, universities, and other research laboratories across the country and around the world.

How Far in Food Availability?

An asset of incomparable value to nutrition education programs is the marvelous year-round food supply of this country. We have enough of all kinds of wholesome food, fresh and processed, that if it could be distributed and used in accord with the nutritional needs of each person, everyone could have a diet that would meet the Food and Nutrition Board's dietary allowances. Helping to make this food supply possible has been the application of science and technology to its production, processing, and marketing. Both the total quantities and the inherent qualities of food have been improved through scientific breeding of plants and animals. Great attention has been given to the conservation of nutrients during processing, storage, and transportation of foods. There has been discriminating addition of selected nutrients to certain staple foods, either to restore nutrients lost in processing or to provide increased amounts of certain nutrients in the interest of the health of the people. High nutritive quality is being built in and protected in our foods.

Even with all this, food in this country is relatively inexpensive. The share of the family budget used for food is probably lower here than in any other country. Today it is less than half of what it was when Atwater made his early dietary studies in the mid-1880's. But even in our present era of affluence some cannot afford to buy the food they need. Such persons are being helped by a number of food programs. In 1965 more than 35 million people—school children, the elderly, the disabled, the unemployed—got better diets than they would otherwise have had, because of the food programs Mrs. Olsen mentioned earlier—school lunch, school milk, and direct food distribution programs; a million low-income consumers were able to increase their food purchasing power *by a third*, because of the food stamp plan.

Over the years we have moved from home production of food for household use to a money economy where we select our diets from a bewildering array on the shelves of a supermarket. In consequence some new educational emphasis are needed—how within our economic means to select the foods that will meet our needs for good nutrition, and how to cooperate in the consumer protection that we ask governmental control and inspection to provide.

How Far in Education?

The provision of food and activities associated with the feeding of the family are a traditional function of the home. And so it is natural that food and nutrition have always formed an important area within the field of home economics. That probably also accounts for the predominately feminine participation in the field of nutrition education.

An early problem in home economics and nutrition education was that of properly qualified personnel. Some of the pioneers, for example, Ellen H. Richards, were graduates of the women's colleges, which were established in the last quarter of the 19th century, who then went to M.I.T., Wesleyan University, and other institutions where they could study food chemistry and related subjects. Somewhat later, many students, both men and women, sought training at university centers in food chemistry, physiological chemistry, and nutrition—centers such as were being developed under Osborne and Mendel at Yale, Sherman and Rose at Columbia, and McCollum at Wisconsin and Johns Hopkins. Each of you, I am sure, has been affected, directly or indirectly, by this particular generation, because you have studied with these great teachers or with their students. Their graduates have taken key positions of leadership throughout the country. Many found openings in the land-grant institutions where nutrition was so important a subject in the curricula of both agriculture and home economics.

Textbooks were an important influence in giving nutrition proper status as a college subject. For example, Sherman's *Chemistry of Food and Nutrition* went through eight editions between 1911 and 1952, and was standard for thousands of us. McCollum's *The Newer Knowledge of Nutrition*, first published in 1918, went through a number of editions and served a similar purpose. Rose's *Handbook of Nutrition*, her *Feeding the Family* and *Foundations of Nutrition* were pioneering efforts to undergird nutrition education for the dietitian and for students desiring a lesser degree of specialization.

How young the science of nutrition really is also is illustrated by the fact that the first college building erected to include a laboratory especially equipped for the training of nutrition personnel was that for Household Arts, opened in 1909 at Teachers' College, Columbia University. It was also at Teachers' College that a person was first given the academic title of Professor of Nutrition—Mary Swartz Rose—in 1921; and that the first degree of Doctor of Education in Nutrition was awarded by any American university—to Juanita Archibald in 1952.

It took dedicated and well-prepared teachers in (1) colleges, universities, and medical schools, (2) good libraries with reference books and technical journals as well as textbooks, and (3) well-equipped laboratories to bring us where we are with thousands of nutritionists qualified to serve in many capacities—in schools; in adult education; in hospitals, clinics, welfare agencies; in

food industries; and in Government—at home and abroad. We have come a long way in preparing nutrition leaders, but the number is still all too few. Just try recruiting for *any* job in any nutrition-related field!

Much of the discussion this week has been centered on nutrition education for the general public, or specific groups within the population. One of the first attempts of a scientist to help the intelligent layman to select food wisely came from the pen of W. O. Atwater in 1901. It was entitled *Principles of Nutrition and Nutritive Values of Food.* This was the forerunner of the many food and nutrition bulletins to come from Federal and State agencies to service the diverse educational and welfare programs offered the public. Many valuable materials have also been prepared by teachers, the Red Cross, the food industries, and other groups.

The preparation of text and reference books for elementary and secondary schools in food and nutrition has been a relatively late development. I believe we must have good text books for the public schools if ever we are to have the sequential teaching of nutrition from kindergarten through secondary schools that Miss Welsh emphasized. Such teaching is necessary for a well-informed and educated public in our field of nutrition.

This National Nutrition Conference is the third to be devoted specifically to problems of nutrition education. I have been impressed by the extraordinary number of facets that nutrition education has, both in the population groups being served and in the number of means of communication you are trying to use to carry the message. I have also been impressed by the clarity with which you state your continuing problems. For example, at your 1957 conference, you said:

> **The job of nutrition education would appear to be a continuing one. Large proportions of the population . . . have food supplies that furnish less than the recommended amounts of several nutrients. The wide opportunity for choice that homemakers now have because of larger incomes and the great variety of food on the market provide an increasing opportunity for improving and extending consumer education.—*Faith Clark.***

> **The number-one problem in nutrition education at all levels is that too little is established concerning effective methods of teaching for change in food habits . . . on the part of . . . teachers (there is) . . . not a lack of interest, but certainly a lack in both sound knowledge and effective methods.—*Willa Vaughn Tinsley.***

And here are several, to me, very significant, recommendations for action you made at the previous conferences:

> **Make nutrition education a part of the elementary teacher's preparation.**
>
> **Explore (with leaders in elementary and secondary education) ways of making nutrition education more effective, and incorporating it into the teacher education program.**
>
> **Define goals and concepts appropriate for nutrition education for different age levels and for groups with various backgrounds.**

And in this 1967 conference, wasn't the first thing I heard Miss Welsh say, ". . . in the public schools one problem seems to recur more often and cause greater concern than any other. It is the lack of a graded curriculum in nutrition education that spans the school years."

You also said in 1962: "Develop a plan for coordination of all resources for nutrition education, involving groups in agriculture, education, health, food industries, and others."

None of these ideas are new. Fine work on some has been done in a number of places for many years, but more is urgently needed today. The problem is that these ideas represent big jobs, requiring the cooperation of many groups and persons, and calling for a high degree of motivation for a long pull.

Experience seems to say that it has been our national crises—catastrophic floods or drought, economic depression, war, or threat of war—that have been the great stimulators to the effective attack on problems of food and nutrition; the great mobilizers of competence to deal with urgent practical situations; the great motivators for cooperative effort.

I well remember the summer of 1930 when I was very new on the national scene. There was a great drought throughout the South. Pellagra was rampant. A severe economic depression was taking form. Action was needed. Local, State, and national committees were soon set up. These included personnel from research and extension in agriculture and home economics, public health officials, emergency Red Cross workers, and concerned citizens. These groups joined to alleviate distress not only by distributing yeast and other food, but also by helping people plan and carry out garden and food preservation programs. Out of the success of these cooperative efforts there came both interest and action in translating nutritional knowledge into practical diet plans at various cost levels—plans which could serve many purposes—guiding food production and purchase of rural families, guiding relief and rehabilitation programs in cities. And before the close of the decade a single, simple nutrition guide was prepared and sponsored by all Federal agencies with food and nutrition programs in or with States. That was fruitful cooperation!

The biggest united push ever given to the national effort to improve nutrition began in 1941. You all should reread the proceedings of the National Nutrition Conference for Defense! By 1941 many States and communities, as well as Washington agencies, had organized nutrition committees. These involved public health nutritionists, extension workers, and food and nutrition specialists, economists, and administrators from schools, colleges, welfare agencies, food industries, and many governmental groups. Public and private groups in science, technology, communications, and statesmanship were concerned, *once the situation was*

explained. Goals were agreed upon and each group tried to see how it could serve and offer its best. In the wartime days and years that followed, business and industry, educators and those operating mass media, citizens groups and State and Federal agencies—all worked together in helping to cope with many of the problems involved in improving nutritional levels in this country.

During this conference you have been saying, it sems to me, that we here today are confronted by a real, if subtle, crisis. This crisis is the paradox of less-than-optimal nutritional levels in a land of plenty, in an age of affluence. It is the crisis of the wide gap between nutritional knowledge and food practices, between the promise of the better life that the nutritional sciences offer and its fulfillment in the lives of our citizens. I ask, do we believe enough in the importance of good nutrition for all people to do the necessary—often unglamorous—jobs to make it an actuality in our midst? Many groups have a part to play—and the parts must be coordinated.

Within the field of nutrition there is much to be done—sound and effective nutrition education requires continuous advance in the sciences—the behavioral as well as the biological sciences—to make the foundation of our teaching secure. This is the task of research.

The interpretation of research results for use by educators requires special skill and is a responsibility to be shared by research workers and experienced leadership, such as can be mobilized by the Academy of Sciences—National Research Council.

Taking the story of nutrition to the many publics that comprise our society, in such a way as to effect action, is a special task also. And it is one for an elite group such as you represent at this conference—

You, who collectively know the features of our many publics—differentiated as they are by age, economic, social, and intellectual structures;

You, who are experienced in the effective use of many forms of communication—face-to-face dialogue, TV, radio, posters, cartoons, the printed word of books, magazines, and newspapers; and

You, who work in various agencies—your emphases may differ, but your goal is one.

I would like to go back for a moment to what you said in 1962: A dream of—"coordination of all resources for nutrition education—involving groups in agriculture, education, health, food industries, and others"—because outside our own little kingdoms of service and action, there's a bigger world. What would it mean to progress in nutrition education in this country over the next 25 years, if we should decide today to bring our *combined resources* to bear on some *one urgent great national need without diminishing what anyone is now doing and will continue to do in his own field* for the general public or a specific population group? What if we should agree, for instance, that all would gain if America had systematic nutrition learning, the best possible that can be planned, for every child throughout his school years?

Teachers alone cannot do it now; they need background knowledge of subject matter and method beyond what they now have;

Teacher-training institutions cannot do it now; they need qualified teachers to teach the teachers;

Administrators of schools and institutions of higher education cannot do it now; it costs money and takes time in crowded curricula;

But we shall get the money, the time, the qualified personnel, and *shall do what needs to be done* to bring the promise of the nutritional sciences into fullfilment—only

WHEN THE PUBLIC COMES TO ACCEPT NUTRITION EDUCATION AS BEING AS BASIC A PART OF TOTAL EDUCATION AS ARE THE LANGUAGE ARTS AND MATHEMATICS.

No single group of nutrition workers can singlehandedly do this public service job of creating a new image for nutrition. The need is for a single-mind on the part of all groups. We must work together *to do the job* as well as *get support for it.* Can we do it? It is for you to decide! What a history-making event this conference of 1967 would be if the answer of *what to do*, and then *the will to act* stemmed from our being together this week!

SUMMARY OF SMALL GROUP DISCUSSIONS

Each participant was assigned to one of 12 discussion groups. In making the assignments, an effort was made to preserve the interdisciplinary composition that was characteristic of the entire group. Each group had a leader and at least one resource person invited to serve from among the out-of-Washington participants. The discussion in all groups focused on the following three questions that were presented to leaders and resource persons in advance:

1. What are some of the problem areas identified in this conference for which solutions need to be found if effective nutrition education can take place?
2. What are some of the most effective means for bringing about improvement in nutrition practices?
3. What suggestions do you have for coordination of efforts in implementing nutrition education?

The reports of the discussion groups indicate that the discussion was lively but the three questions did not remain as discrete as this reporting might suggest. We are merely listing the major (1) problems, (2) the means of effecting improvement in practices, and (3) suggestions for coordination of efforts that were discussed in the various groups.

Problems

An analysis of the group discussion reports reveals considerable concern on the part of participants over the following areas:

1. Content or subject matter in nutrition.
   a. How to keep to a minimum misinformation or confusing information given out by trained people—the layman often gets conflicting advice.
   b. How to keep nutritionists and other community workers current in the science of nutrition. Particular emphasis was placed on keeping workers with a limited background supplied with sound interpretations of nutrition research.
2. Nutrition education in schools—the need to initiate, develop, and evaluate sequential nutrition programs in elementary and secondary schools.
   a. The use of school lunch as a teaching tool.
   b. Nutrition not required in the preservice training of elementary and secondary school teachers.
3. Coordination.
   a. Need for coordination or improved coordination of nutrition programs at Federal, State, and local levels.
   b. Coordination of nutrition education with other areas such as medical education.
4. Motivation—need to develop techniques for inspiring various publics to action.
5. Communication—need to:
   a. Know more about principles and techniques of communication.
   b. Identify groups with which good communication should be maintained.
6. Research on:
   a. "Whys" of food habits.
   b. Evaluation of communication via various media.
   c. Audience understanding of nutrition.
   d. How to evaluate programs and materials.
7. Specific health problems:
   a. Obesity.
   b. Teenage nutrition problems.

Means of improving nutrition practices:

1. Be sure that nutrition is in preservice and in-service education of teachers and community workers.
2. Conduct sequential programs of nutrition education in grades K–12 using School Lunch as a tool at all grade levels.
3. Coordination of nutrition education efforts by all participating groups in the community.
4. Use of all possible information and techniques in reaching and working with people.

Suggestions for Improved Coordination of Efforts in Implementing Nutrition Education

1. Encourage all State leaders in Extension, welfare, school lunch, nutrition, hygiene, and education to meet on a regular but informal basis to work out a coordinated nutrition program. The group would focus on mutual problems, current work in progress and planning future programs. New staff would sit in as orientation and outside speakers could be used as resource people. This type of coordination should be encouraged at the local levels as well.
2. Encourage schools to set up their own committees—with a representative on the community committee—consisting of such key personnel as school lunch managers, home economics teachers, dental hygienists, health teachers, parents, and principal to work at a coordinated nutrition education program.

Participant Evaluation

Participant evaluation of a conference is always dependent upon what the participant expectations were at the start of the meetings. A preconference questionnaire was mailed to participants to get some idea of what was expected from the program that had been developed and to provide baselines for later evaluation.

PRECONFERENCE QUESTIONNAIRES

Two hundred fourteen questionnaires elicited 159 responses. It was obvious from an analysis of the first 104 responses that participants had given a great deal of thought to the program and were coming to the conference with high expectations. The number of topics they hoped to have included far exceeded the number that could possibly be covered. In fact, they identified 30 different audiences that they believed needed to be reached with nutrition education. They are:

1. People in a community.
2. Consumers at all income levels.
3. Homemakers.
4. Young homemakers.
5. Working mothers.
6. Teenagers.
7. Older people.
8. Different age levels.
9. Low-income people (including welfare recipients).
10. Parents.
11. Groups speaking a foreign language.
12. Different cultural and ethnic groups.
13. People on therapeutic diets.
14. Volunteer leaders.
15. Other professionals.
16. Caseworkers.
17. Health professions-doctors, nurses, and others.
18. Industry.
19. Agriculturists.
20. Those in authority and in influential positions, particularly those who influence young people (school teachers, health educators, physical education directors, school nurses, Scout leaders, YWCA, YMCA).
21. Other agencies and groups interested in nutrition education.
22. Food editors and science and medical writers.
23. Mass media personnel.
24. School administrators, junior high and elementary school teachers.
25. School lunch workers.
26. Future dietitians and home economics students.
27. Students in child development and family relations preparing to be social workers.
28. Researchers.
29. Rural people.
30. Preschool child.

The participants also indicated that they would like discussion on various phases of the following topic areas:

1. Background information.
2. Planning and evaluating nutrition programs.
3. Coordination of nutrition programs.
4. Communication methods.
5. Motivation.
6. Education and training.
7. Research.
8. Reaching low-income people.

The results of this questionnaire were used in planning the small group discussions and were made available in advance to the discussion leaders.

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